1935.

QUEENSLAND.

ANNUAL REPORT

OF THE

DIRECTOR-GENERAL

OF

HEALTH AND MEDICAL SERVICES

TO

30th JUNE, 1935.

BRISBANE:
BY AUTHORITY: DAVID WHYTE, GOVERNMENT PRINTER.

CONTENTS.

ANNUAL REPORT OF THE DIRECTOR-GENERAL OF HEALTH AND MEDICAL SERVICES, 1934-1935.

SIR,—I have the honour to submit for the information of the Minister the Annual Report of this Department for the year ending 20th June, 1935.

Vital Statisties as under are furnished to enable comparison to be made between this State and the other States of the Commonwealth, as well as other countries inhabited by white races.

It is interesting to note that Queensland still compares more than favourably with the other countries shown in the tabulated statements.

The estimated population of the State on the 1st January, 1935, was 959,752.

CRUDE BIRTH RATE.

Country.	Year.	Birth Rate.	Year.	Birth Rate.
Commonwealth	1933	16·78	1934	16·39
Queensland	1933	18·13	1934	18·16
New South Wales	1933	17·00	1934	16·52
Victoria	1933	15·59	1934	15·20
South Australia	1933	15·32	1934	14·50
Western Australia	1933	17·95	1933	17·66
Tasmania	1933	19·93	1934	19·51
New Zealand	1933	16·59	1934	16·47
England and Wales	1933	14·4	1934	Not available
Scotland	1933	17·6	1934	Not available
Irish Free State	1933	19·2	1934	Not available
Canada	1933	20·9	1934	Not available

DEATH RATE.

Country.	Year.	Death Rate.	Year.	Death Rate.
Commonwealth	1933	8·92	1934	9·32
Queensland	1933	8·83	1934	8·57
New South Wales	1933	8·58	1934	8·95
Victoria	1933	9·59	1934	10·18
South Australia	1933	8·44	1934	9·26
Western Australia	1933	8·64	1934	9·23
Tasmania	1933	9·60	1934	10·23
New Zealand	1933	7·98	1934	8·48
England and Wales	1933	12·3	1934	Not available
Scotland	1933	13·2	1934	Not available
Irish Free State	1933	13·6	1934	Not available
Canada	1933	9·6	1934	Not available

RATES OF INFANTILE MORTALITY IN VARIOUS COUNTRIES.

Country.	Year.	Death Rate per 1,000 Births.	Year.	Death Rate per 1,000 Births.
Commonwealth	1933	39·49	1934	43·59
Queensland	1933	42·62	1934	40·61
New South Wales	1933	39·33	1934	46·36
Victoria	1933	40·43	1934	44·63
South Australia	1933	32·13	1934	35·58
Western Australia	1933	36·83	1934	40·89
Tasmania	1933	41·07	1934	42·28
New Zealand	1933	31·6	1934	31·74
England and Wales	1933	63·0	1934	Not available
Scotland	1933	81·0	1934	Not available
Irish Free State	1933	65·0	1934	Not available
Canada	1933	73·0	1934	Not available

COMMUNICABLE DISEASES.

The monthly incidence of infectious diseases notified throughout the State is shown in the following tables. In addition, tables for the calendar year 1934 are furnished as hereunder :—

COMMUNICABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES)—1ST JULY, 1934, TO 30TH JUNE, 1935.

(METROPOLITAN AREA.)

Diseases.	MONTHS. 1934. July.	Aug.	Sept.	Oct.	Nov.	Dec.	1935. Jan.	Feb.	Mar.	Apr.	May.	June.	Totals. 1934-35.	1933-34.	1932-33.
Anchylostomiasis	..	..	..	..	..	..	..	..	..	..	..	..	..	1	158
Acute Anterior Poliomyelitis	1	1	..	..	..	1	1	..	1	..	..	2	7	5	5
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bilharziasis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Brill's Disease	..	..	..	..	..	1	..	..	..	..	..	..	1	1	..
Cerebro-spinal Meningitis (epidemic)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Coastal Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera, Asiatic	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria	75	44	60	45	45	52	46	23	50	68	69	60	637	778	957
Dysentery, Amœbic	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery, Bacillary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Encephalitis lethargica	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2
Filariasis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Malaria	..	..	2	..	..	..	..	..	..	..	1	..	3	1	1
Mossman Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague (Bubonic or Oriental)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	..	..	..	..	..	..	..	2	..	..	..	..	2	6	8
Puerperal Pyrexia	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1
Relapsing Fever	..	..	..	..	..	..	..	..	..	..	..	..	Nil	Nil	Nil
Sarina Fever	..	..	..	..	..	..	..	..	..	..	..	..	Nil	Nil	Nil
Scarlet Fever	25	30	22	22	15	14	17	14	22	26	24	20	251	175	168
Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhoid Fever (includes Paratyphoid)	3	1	..	3	2	..	1	3	3	..	3	1	20	42	19
Typhus Fever (Endemic)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis (all forms)	3	8	5	14	7	5	12	14	5	5	11	7	96	112	96
Weil's Disease	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yellow Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	107	84	89	84	69	73	77	56	81	99	108	91	1,018	1,123	1,416
1933-34 Totals	89	80	86	77	95	101	79	88	93	116	119	100	1,123	..	..
1932-33 Totals	101	128	78	110	125	141	123	146	170	107	99	88	Total..	1,416	..

(OUTSIDE AREAS).

Diseases.	MONTHS. 1934. July.	Aug.	Sept.	Oct.	Nov.	Dec.	1935. Jan.	Feb.	Mar.	Apr.	May.	June.	Totals. 1934-35.	1933-34.	1932-33.
Anchylostomiasis	..	..	..	..	..	..	1	..	..	..	..	1	2	3	35
Acute Anterior Poliomyelitis	..	2	1	..	3	3	2	2	4	1	3	2	23	6	15
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	Nil	1	..
Bilharziasis	..	..	..	..	..	..	..	..	..	..	..	..	Nil	..	..
Brill's Disease	..	1	..	..	..	..	..	..	..	..	..	..	1	1	1
Cerebro-spinal Meningitis (Epidemic)	..	1	..	..	..	..	..	..	..	..	..	..	1	5	4
Coastal Fever	..	..	8	8	6	6	3	3	6	..	2	4	46	Nil	..
Cholera, Asiatic	..	..	..	..	..	..	..	..	..	..	..	..	Nil	Nil	Nil
Diphtheria	78	66	60	57	35	36	26	31	42	29	28	76	564	935	1,302
Dysentery, Amœbic	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Dysentery, Bacillary	..	..	..	..	..	..	..	..	..	5	1	..	6	..	1
Encephalitis lethargica	..	..	..	..	..	..	..	..	1	..	..	..	1	5	1
Filariasis	..	..	..	..	..	..	..	..	1	..	..	..	1	..	7
Leprosy	1	2	..	..	..	1	..	..	1	..	..	1	6	11	7
Malaria	..	..	..	3	4	1	8	2	2	..	..	..	20	990	6
Mossman Fever	..	..	..	..	..	..	1	2	1	..	3	..	7	Nil	..
Plague (Bubonic or Oriental)	..	..	..	..	..	..	..	..	..	..	..	..	Nil	Nil	Nil
Puerperal Fever	..	..	1	..	1	1	1	..	1	1	..	1	7	14	16
Puerperal Pyrexia	..	..	..	1	2	..	..	1	..	..	..	3	7	5	7
Relapsing Fever	..	..	..	..	..	..	..	..	..	..	..	..	Nil	Nil	..
Sarina Fever	..	..	..	..	..	..	..	..	..	..	..	..	Nil	Nil	Nil
Scarlet Fever	36	26	30	28	23	22	18	10	17	19	19	23	271	368	437
Typhoid Fever (includes Para-typhoid)	8	1	3	4	5	5	16	8	10	8	5	6	79	56	83
Typhus Fever (Endemic)	2	1	..	..	..	..	..	..	1	..	2	3	9	..	..
Tuberculosis (all forms)	3	3	1	4	4	7	4	13	21	24	15	6	105	99	118
Weil's Disease	..	..	1	4	..	..	..	..	1	..	..	..	6	..	..
Yellow Fever	..	..	..	..	..	..	..	..	..	..	..	..	Nil	Nil	Nil
Totals	128	103	105	109	84	82	80	72	109	87	78	126	1,169	2,499	2,042
1933-34 Totals	128	111	130	109	120	110	127	126	141	133	139	1,125	..	*2,499	*ineludes 990 Malaria
1932-33 Totals	218	188	145	153	145	190	163	129	196	194	181	140	Total ..	2,042	

Annual Statement of Notifiable Diseases during Calendar Year 1934 (Metropolitan Area).

Diseases.	Months.												
	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Anchylostomiasis	..	..	1	..	1	..	..	..	..	..	..	..	2
Acute Anterior Poliomyelitis	..	..	..	1	..	..	1	1	..	..	..	1	4
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..
Bilharziasis	..	..	..	..	..	..	..	..	..	..	..	..	..
Brill's Disease	..	..	..	1	..	..	..	..	..	..	..	1	2
Cerebro-spinal Meningitis	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera, Asiatic	..	..	..	..	..	..	..	..	..	..	..	..	..
Coastal Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria	51	62	70	82	82	63	75	44	60	45	45	52	731
Dysentery, Amœbic	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery, Bacillary	..	..	..	..	..	..	..	..	..	..	..	..	..
Encephalitis lethargica	..	..	..	..	..	..	..	..	..	..	..	..	..
Filariasis	..	..	..	..	..	..	..	..	..	..	..	..	..
Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..
Malaria	..	..	..	..	..	..	..	..	2	..	..	..	2
Mossman Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague (Bubonic or Oriental)	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	..	1	..	2	..	1	..	..	..	..	..	..	4
Puerperal Pyrexia	..	..	..	..	..	..	..	..	..	..	..	..	..
Relapsing Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Sarina Fever,	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever	11	12	12	15	21	28	25	30	22	22	15	14	227
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis (all forms)	8	8	7	12	15	5	3	8	5	14	7	5	97
Typhoid Fever (includes Paratyphoid)	9	5	3	3	..	3	3	1	..	3	2	..	32
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Weil's Disease	..	..	..	..	..	..	..	..	..	..	..	..	..
Yellow Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	79	88	93	116	119	100	107	84	89	84	69	73	1,101
1933 Totals	121	100	219	111	99	90	89	80	86	77	95	101	1,268
1932 Totals	157	108	52	61	78	95	101	128	78	110	125	141	1,234
1931 Totals	69	59	79	123	169	159	131	94	89	83	78	132	1,265
1930 Totals	83	55	93	90	86	102	90	74	77	73	80	73	976

Annual Statement of Notifiable Diseases during Calendar Year 1934 (Outside Areas).

Diseases.	Months.												
	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Anchylostomiasis	..	1	..	..	..	..	..	..	..	..	..	..	1
Acute Anterior Poliomyelitis	1	..	2	..	..	..	..	2	1	..	3	3	12
Anthrax	..	1	..	..	..	..	..	..	..	..	..	..	1
Bilharziasis	..	..	..	..	..	..	..	..	..	..	..	..	..
Brill's Disease	..	1	..	..	..	..	..	1	..	..	..	..	2
Cerebro-spinal Meningitis	..	..	..	..	1	..	..	1	..	..	..	..	2
Cholera, Asiatic	..	..	..	..	..	..	..	..	..	..	..	..	..
Coastal Fever	..	..	..	..	..	..	..	..	8	8	6	6	28
Diphtheria	81	76	85	77	76	82	78	66	60	57	35	36	809
Dysentery, Amœbic	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery, Bacillary	..	..	..	..	..	..	..	..	..	..	..	..	..
Encephalitis lethargica	2	..	..	..	..	..	..	..	..	..	..	..	2
Filariasis	..	..	..	..	..	..	..	..	..	..	..	..	..
Leprosy	1	..	1	..	3	..	1	2	..	..	..	1	9
Malaria	..	..	1	..	..	987	..	..	..	3	4	1	996
Mossman	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague (Bubonic or Oriental)	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	..	..	..	3	1	..	..	..	1	..	1	1	7
Puerperal Pyrexia	1	1	..	..	1	..	..	..	..	1	2	..	6
Relapsing Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Sarina Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever	32	27	33	37	43	43	36	26	30	28	23	22	380
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis (all forms)	4	9	17	10	4	6	3	3	1	4	4	7	72
Typhoid Fever (includes Paratyphoid)	2	9	2	4	9	6	8	1	3	4	5	5	58
Typhus Fever	..	..	..	..	..	..	2	1	..	..	..	..	3
Weil's Disease	..	..	..	..	..	..	..	..	1	4	..	..	5
Yellow Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	124	125	141	131	138	1,124	128	103	105	109	83	82	2,392
1933 Totals	121	100	219	111	99	90	89	80	86	77	95	101	1,268
1932 Totals	157	108	52	61	78	95	101	128	78	110	125	141	1,234
1931 Totals	191	135	192	231	346	295	260	185	190	112	100	149	2,386
1930 Totals	145	142	212	234	193	152	125	129	143	113	108	187	1,883

Diphtheria.

The remarkable fall in the diphtheria rate for 1934-35 in the State (extra metropolitan) clearly demonstrates the influence which has been effected in the incidence of the disease by means of immunisation.

This reduction to 564 cases, compared to 1,466 cases in 1930-31, is all the more striking when it is realised that the number of cases occurring in the outside areas is less than that of the metropolitan area—637 cases—and this in spite of the fact that the population of the city is half that of the population of the remainder of the State.

The majority of the cases occurred, as in past years, in areas where practically very little or no immunisation had taken place. In several of these areas there has been an actual increase in the number of cases reported.

It is also significant to note that in some of the immunised areas diphtheria has again occurred in children who had not been immunised. It would appear that the disease has at present a tendency to increase in virulence, and it is considered that if no immunisation had taken place, the past year would have been remarkable for the number of cases.

It is pleasing to note that the immunisation campaign is now progressing smoothly in Brisbane and, although the reduction in the incidence rate is not so remarkable as that for the rest of the State, nevertheless the reduction is steady and the beneficial results of the campaign are now beginning to be demonstrated.

Much greater success, however, could be obtained if permission were given to the Medical Officer of Health to arrange that immunisation should be administered by a number of medical practitioners in the various wards of the city. By this means a larger number of children would be immunised in a shorter period of time.

Local Authorities are also advised to continue to immunise in their areas; especially should this be so for the young children attaining the first year of life, otherwise, as pointed out last year, the excellent results now obtaining will be rapidly frittered away.

When it is realised by Local Authorities that on a very conservative estimate £50,000 has been saved on this disease in the last four years, the financial saving, apart from their duty as custodians of the public health of the people of their areas, should stimulate them to greater efforts.

Typhoid Fever.

Eighty-one cases of typhoid fever have been reported for 1934-35 in the State outside the metropolis. This is a marked increase since last year. The majority of the cases, however, have been sporadic in nature and careful investigations by Medical Officers of Health and Health Inspectors have failed to reveal the origin of the disease. One outbreak, consisting of five cases, occurred within a hospital, and was similar in nature to an outbreak which occurred last year in another hospital. On close investigation it was discovered that two of the patients had been admitted previously to hospital while in an infectious condition, the diagnosis of typhoid fever not being clear at the time; then discharged, and later readmitted suffering from a frank attack of typhoid fever. Accordingly it is fairly obvious that the remainder of the patients must have become infected during the former period.

In another outbreak of nine cases when investigated by the local Medical Officer of Health there was evidence of considerable neglect of the sanitary control of the earth closets and of disposal of refuse by the inhabitants of a somewhat poor locality. Under such circumstances the danger of the spread of this disease is considerably increased, especially when persons of nomadic habits —who may be carriers—arrive in the area.

I cannot emphasise too strongly to Medical Officers of Health the necessity for making a careful investigation into the past histories of the contacts of cases of typhoid fever and, where histories of suspicious illnesses are obtained, specimens of blood should be taken for transmission to the nearest laboratory for the performance of the Widal reaction. Furthermore, when suspicion definitely rests on individuals, specimens of urine and fæces should be forwarded for bacteriological examination to the nearest laboratories. Medical Officers of Health should not rest content with one or two negative results, but, on the other hand, they should continue to forward specimens at regular intervals and in as fresh a condition as possible. Where this has been done, evidence of the remarkably intermittent manner in which typhoid bacilli are excreted has been obtained, and, indeed, in North Queensland, an aberrant type with delayed Widal has now been shown to occur somewhat frequently.

In future Local Authorities must realise that when cases of typhoid fever occur within their respective areas, no time must be lost in making the necessary investigations, and the reports of their Medical Officer of Health, regarding patients and contacts, and those of Health Inspectors on the sanitary conditions of the surroundings, are to be forwarded immediately to the Department of Public Health without awaiting specific directions.

Scarlet Fever.

Scarlet fever is still on the decline in the country and remains mild. In the metropolitan area the increase seen last year is still continued. There is a slight tendency for the incidence to rise during the winter months.

Leprosy.

The position as regards leprosy tends to remain in *statu quo*. From time to time, coloured persons who have been detected during some medical survey, are sent into the Lazaret.

The following table shows recent fluctuations in the numbers of inmates on Peel Island :—

White Inmates.			Coloured Inmates.		
1933.			1933.		
Remaining 1st January	31		Remaining 1st January	29	
Admitted	3		Admitted	9	
		34			38
Discharged	4		Discharged	2	
Deaths	0		Deaths	4	
		4			6
Total number, December, 1933		30	Total number, December, 1933		32
1934.			1934.		
Remaining 1st January	30		Remaining 1st January	32	
Admitted	3		Admitted	10	
		33			42
Discharged	1		Discharged	4	
Deaths	5		Deaths	2	
		6			6
Total number, December, 1934		27	Total number, December, 1934		36

Grand total at Lazaret, 31st December, 1933	62
Grand total at Lazaret, 31st December, 1934	63

Plague.

It is pleasing to note that no case of plague has been reported in the State since the year 1922. Nevertheless there must be no abatement in plague prevention work. It is most important that Local Authorities, especially those on the seaboard, continue to wage incessant warfare against the rat.

Ankylostomiasis.

From time to time notifications reach the Department from private practitioners of cases of ankylostomiasis, with the result that the numbers shown in the infectious diseases list are misleading. Under this heading, therefore, the reader must consult the appendix dealing with the work of the Hookworm Campaign.

Venereal Diseases.

The following particulars show the work carried out in connection with the venereal diseases sections of the Health Acts during the year ended 30th June, 1935 :—

Incidence.

Notifications.—During the twelve months under review 1,248 persons were notified (anonymously) as suffering from veneral disease, as compared with 1,576 for the previous twelve months. As some of these patients had more than one infection they represented 1,293 distinct infections with venereal disease, as compared with 1,606 during 1933-34.

Syphilis.—Two hundred and forty-six of these infections were syphilitic as compared with 366 in 1933-34. Acute (recently acquired) syphilis accounted for 51 of these, which is in conformity with the apparent downward trend of this disease. One at least of these infections was accidental, a chancre of the lip from a kiss, a reminder that even the most perfect of rosebuds may mask a thorn.

Gonorrhœa.—One thousand and sixteen of the infections were for the various gonorrhœal infections (excluding ophthalmia) as compared with 1,216 for 1933-34.

That extragenital and accidental infections are an ever present danger is still evident from the 17 cases of vulvo-vaginitis, and 5 of ophthalmia. There was also 1 case of infection of an adult male which, after careful enquiry, can almost with certainty be attributed to his having borrowed and worn the garments of another man infected with gonorrhœa.

Other Forms of Venereal Disease.—These account for the balance of the notifications, with ulcerative granuloma much rarer than usual. Last year it was pointed out that the term " ulcerative granuloma " was not a good one for purposes of notification, that possibly conditions other than granuloma inguinale might at times be included under this heading. A broken-down " climatic bubo " which has been secondarily infected might quite easily present the clinical appearance of " ulcerating granuloma of the pudenda," but is quite a separate disease. As this condition of " climatic bubo " (*Lymphogranuloma inguinale*) is also a venereal disease (not at present notifiable), and seems to be increasing throughout the world in both temperate and tropical zones, it is as well to avoid confusion. What was almost certainly a case of this latter infection was seen at the male clinic in Brisbane during the year, but unfortunately no Frei antigen was procurable to clinch the diagnosis. Some was prepared from this case, and its specificity was to have been tested on another suspect infection (Esthioméne) in a prostitute, but this woman died in the meantime from some intercurrent infection.

Regarding the 11 cases of ulcerative granuloma reported last year, Dr. Nimmo of Thursday Island, writes :—" All cases reported by me are definitely this disease as described in Manson. The striking features in treatment are . . . . ., the results obtained by antimony tartrate. All patients so far treated by me have come from the Cape York Peninsula."

The other chief source of notification of ulcerative granuloma is the Palm Island Aboriginal Settlement. The exact and specific nature of these cases is difficult to determine, but most of the cases have responded fairly well to antimony tartrate. There is no evidence as to the existence or otherwise of climatic bubo.

Last year's report also contained a note regarding yaws, pointing out that such an authority as Professor Blacklock of Liverpool was casting doubt upon the usually accepted, but by no means universal, belief that yaws and syphilis are distinct diseases, and that in view of this it would be interesting to know the extent, if any, of yaws in North Queensland.

Regarding this, Dr. Nimmo also writes : " This disease (yaws) is endemic in the islands of the Torres Straits, and amongst the aborigines of the Peninsula, as far south as the Mitchell River on its western side, and the Loekhart River on the east. These two places mark the boundary of the area from which patients report to the Torres Strait Hospital at Thursday Island. The treatment of yaws in this area is well organised. There is not a great number of active cases at present."

Regarding venereal disease notifications in general, it cannot be said that these are altogether satisfactory. The true incidence of venereal disease in Queensland, as in other parts of the world, is probably considerably greater than the notification statistics suggest. The paucity of returns from certain centres is quite at variance with known facts concerning the incidence of the disease in these centres. On the other hand, the " spot-diagnosis " of a discharge, or a sore, or a rash, unsupported by the necessary microscopic and serologic tests and aids to diagnosis, is not uncommon. However, until such time as our principal clinics and hospitals are more thoroughly equipped to apply the principles of present day science to the accurate diagnosis and treatment of venereal disease, one cannot criticise too hastily. Slipshod methods are altogether too common, but the fault has largely been the absence of adequate Departmental correlation of authority. Recent and projected improvements in this section, *inter alia*, of the Health Department are directed to this end.

The following table gives a dissection of the notifications received for the twelve months under review :—

SUMMARY OF NOTIFICATIONS.

Nature of Disease.	District.	Males.	Females.	Totals.	
Single Infections.					
Gonorrhœa—					
Unspecified	Metropolitan	93	10	103	203
	Outside	75	25	100	
Acute	Metropolitan	370	67	437	609
	Outside	137	35	172	
Sub-Acuto	Metropolitan	34	42	76	110
	Outside	24	10	34	
Chronic	Metropolitan	17	23	40	50
	Outside	6	4	10	
Vulvo-vaginitis	Metropolitan	..	10	10	17
	Outside	..	7	7	
Ophthalmia	Metropolitan	3	2	5	5
	Outside	..	..	..	
Syphilis—					
Unspecified	Metropolitan	1	2	3	5
	Outside	1	1	2	
Primary	Metropolitan	9	3	12	22
	Outside	9	1	10	
Secondary	Metropolitan	8	7	15	28
	Outside	6	7	13	
Tertiary	Metropolitan	14	5	19	47
	Outside	20	8	28	
Latent	Metropolitan	28	13	41	62
	Outside	8	13	21	
Neuro	Metropolitan	2	..	2	9
	Outside	5	2	7	
Congenital (hereditary)	Metropolitan	9	9	18	51
	Outside	20	13	33	
Soft chancre	Metropolitan	..	..	..	1
	Outside	1	..	1	
Ulcerative granuloma	Metropolitan	..	..	..	2
	Outside	..	2	2	
Venereal warts	Metropolitan	5	..	5	5
	Outside	..	..	..	
Double Infections.					
Gonorrhœa and—					
Syphilis (unspecified)	Metropolitan	..	..	..	2
	Outside	1	1	2	
Syphilis (secondary)	Metropolitan	..	..	..	1
	Outside	..	1	1	
Syphilis (latent)	Metropolitan	2	1	3	17
	Outside	7	7	14	
Triple Infections.					
Gonorrhœa, Syphilis, and Granuloma	Metropolitan	..	..	..	2
	Outside	1	1	2	
	Metropolitan	595	194	789	1,248
	Outside	321	138	459	

Sources of Notification.—Of the total notifications received 28·4 per cent. were from private practitioners, as compared with 31·6 per cent. last year. The actual figures are shown in the table :—

SOURCES OF NOTIFICATION.

Treatment Centre.	Brisbane.	Outside Areas.	Totals.
Clinics	398	224	622
Private practitioners	232	123	355
Hospitals (other than Clinics)	159	112	271
Totals	789	459	1,248

Stated Sources of Infection.—It will be seen from the table that the "non-professional," as usual, heads the list. The "professional" as such is apparently diminishing owing probably to the fact that the average young man to-day finds that a well-lined pocket is not necessary to enter the Temples of Venus.

Regarding our enquiries at the male clinic in Brisbane as to sources of infection, we have been successful in having at least 33 women induced to report for examination and treatment, either to a clinic, hospital, or private medical man.

The following table gives the stated sources of infection :—

STATED SOURCES OF INFECTION.

Sources aseribed to—	Area.		Totals.
	Brisbane.	Outside Areas.	
Prostitutes in houses	39	12	51
Prostitutes unknown	100	35	135
Non-professionals	277	117	394
Husbands	12	2	14
Wives	12	2	14
Parents	20	17	37
Occupational (prostitutes)	60	16	76
Gins, half-castes, &c.	1	31	32
Extra-genital (accidental)	1	1	2
Criminal assaults	..	1	1
Unknown or unstated	267	225	492
Totals	789	459	1,248

Defaulters.—During the twelve months there were 277 defaulters, representing 22·3 per cent. of the total notifications received. This compared with 20 per cent. for the previous twelve months. Of these, 176 were traced, and 170 resumed treatment. The majority of the figures are from the Hope Street Male Clinic, as this is the only centre where apparently a close watch is kept on the attendances. The actual numbers of persons defaulting are also somewhat less, as these figures include that of patients defaulting more than once during the year :—

SUMMARY.

Defaulters.	Male Clinic (Hope Street).	Other than Hope Street.	State Totals.
Notified	207	70	277
Resuming treatment	133	37	170
Not located	70	30	100
Enquiries continuing	..	1	1
Left the State	4	2	6

CLINICS.

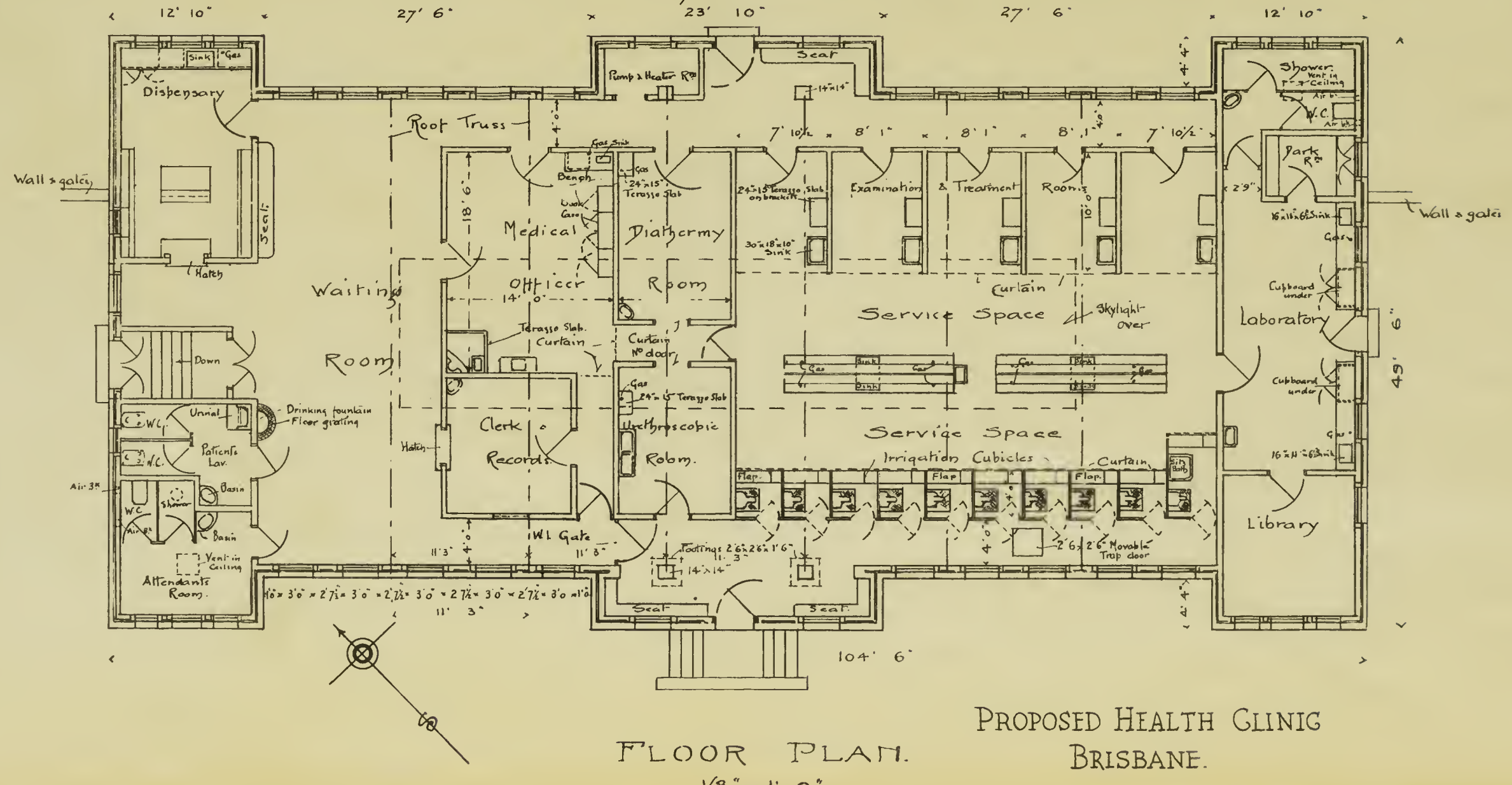
Facilities for treatment are provided by two centres (one male and one female) *ad hoc* in Brisbane. Also where such centres are not available each subsidised public hospital in the State is required to treat any case applying for treatment, and certain of the larger country hospitals have more or less elementary clinic facilities attached.

Male Clinic, Brisbane (*Hope street*).—This is virtually a continuous clinic with three sessions daily. Its disadvantages—cramped space, lack of privacy and equipment, and non-central location—have been mentioned in previous reports and it is with pleasure that a plan of the proposed new male clinic to be built in a central position is reproduced herewith.

In its main features the design follows that approved by the British Ministry of Health, enabling a minimum of staff to cope with a maximum of patients. The building will be of brick finished internally in " terrazzo " and white tiling, with fittings following approved hospital sanitary design.

Adequate provision has been made for the thorough examinations necessary in the treatment of syphilis (cardio-vascular, neurological, &c.), and the complete genito-urinary investigations necessary in treating gonorrhœa. To those used to the inefficient " hit or miss " type of clinic this new place should be both a revelation and a lesson. Medical men and venereal disease attendants from outside centres may come, see, and learn what modern and up-to-date treatment entails, and students at our proposed medical school may receive here that thorough grounding in diagnosing and treating venereal disease which has hardly been a feature of medical training schools hitherto.

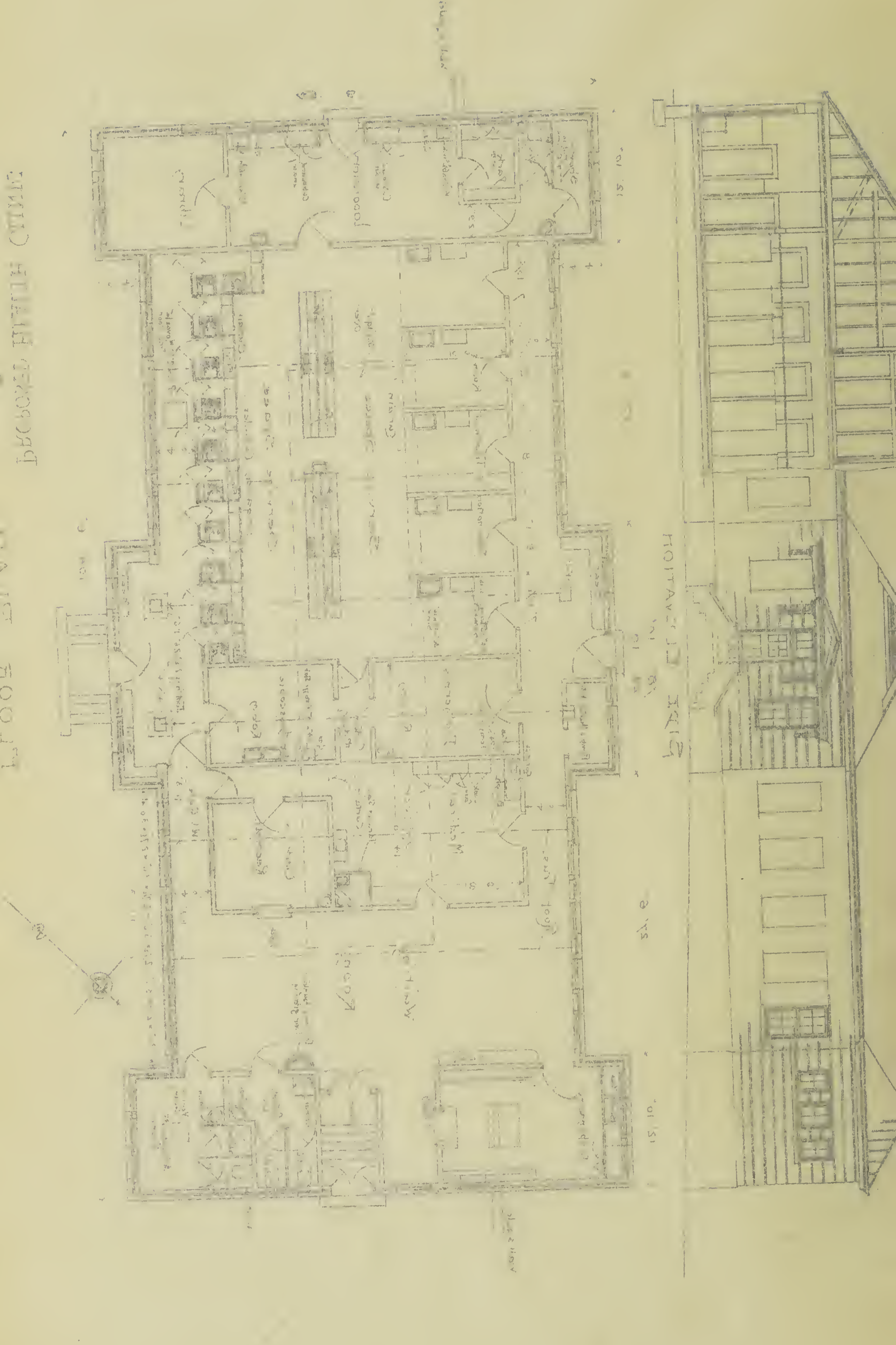
SIDE ELEVATION



FLOOR PLAN.

1/8" = 1' 0"

PROPOSED HEALTH CLINIC
BRISBANE.


PROPOSED HEALTH CLINIC
FLOOR PLAN
SIDE ELEVATION

An abbreviated summary of the male elinic operations, with eorresponding figures for the previous few years, is shown in the following table :—

——	1934-35.	1933-34.	1932-33.	1931-32.	1930-31.
Consultations (M.O.)	10,827	10,795	10,826	10,388	9,761
New cases	659	674	783	756	771
Notified (venereal)	367	407	440	434	445
Blood specimens for W.R.	1,510	1,535	828	731	953
Blood specimens for Klein trt.	1,510	1,535	..	..	..
Blood specimens for C.D. (Gon.)	445	423	485	457	..
Dark ground examinations	19	33	40	40	31
Smears (for grams. stain)	2,008	2,041	2,315	2,423	2,488
" 914 " administered	1,288	1,140	927	912	1,306
Bismuth administered	1,311	1,338	1,297	1,464	1,582
Prescriptions dispensed	1,377	1,829	1,797	2,475	3,110
Seamen's cards issued	3	6	7	8	17
Cortificates of apparent cure	196	209	231	213	221

Of the 659 new patients at the male elinic who reported for examination during the year, 367 were diagnosed as suffering from venereal disease as follows :—

Disease.	Notification at Clinic.	Notification elsewhere.	Totals.
Acute Gonorrhœa	307	14	321
Sub. Acute Gonorrhœa	6	...	6
Chronic Gonorrhœa	7	..	7
Primary Syphilis	5	2	7
Secondary Syphilis	3	..	3
Tertiary Syphilis	3	..	3
Latent Syphilis	15	..	15
Neuro Syphilis	1	..	1
Venereal Warts	4	..	4
Totals	351	16	367

At the end of the fiseal year under review there were 389 patients attending the elinie, as eompared with 434 at 30th June, 1934, and for purposes of eomparison a statement eovering a five-yearly period is appended :—

Summary of Diagnoses.

Nature of Disease.	1934-35.	1933-34.	1932-33.	1931-32.	1930-31.
Gonorrhœa	189	197	212	188	188
Syphilis (all stages)	118	140	135	125	133
Gonorrhœa and Syphilis	31	42	25	26	28
Venereal Warts	1	1	3	2	..
Venereal Warts and Syphilis	1	1	..	..	..
Indefinite	18	10	19	..	..
Other Genital Conditions	8	13	29	..	..
Undiagnosed at date of report	23	30	11	88	61
Totals	389	434	434	429	410
Actual Venereal Cases	340	381	375	341	349

Female Clinic, Brisbane (William street).—Attendances at this clinic have deelined somewhat as eompared with last year, although there has been a deeline generally in notifications. This elinie has many good points—it is fairly modern, centrally situated, and with a eompetent female staff.

A short summary of operations with some figures for previous years is shown :—

——	1934-35.	1933-34.	1932-33.	1931-32.	1930-31.
Consultations (Medical Officer)	1,492	2,351	2,103	1,472	..
New Cases	115	142	147	83	98
Notified (Venereal)	50	73	77	65	38
" 914 " administered	260	515	370	137	..
Bismuth administered	321	407	404	148	..
Local Treatments	937	1,396	1,464	854	..

Prostitutes.—As a result of periodic examinations of some known prostitutes, those found infected are isolated and treated till apparently free of infection. The following table gives the numbers with some figures for previous years :—

Year.	Metropolis.		Outside Metropolis.	
	Examined.	Detained.	Examined.	Detained.
1934–35	524	46	826	32
1933–34	665	54	713	33
1932–33	637	72	716	25
1931–32	845	68	956	34
1930–31	892	71	944	34

With regard to prostitutes, the table for stated sources of infection is illuminating. In Brisbane, of 139 infections ascribed to prostitutes, only 39 were women in houses and who are regularly examined. The other 100 were apparently " clandestines " and street walkers of whom too little is seen at the examination rooms. A few of them are arrested and subsequently examined.

Some General Remarks.

Reference has already been made to the proposed new male clinic. When this is in full operation male patients, insofar as Brisbane is concerned, will be adequately catered for and treated.

Regarding facilities for females, however, there is much to be done. Women constitute the reservoir for this disease, and to provide anything less than completely adequate facilities for treating women is analogous to trying to stem the flood rather than dam its source.

For women really good treatment requires almost daily attendance at the clinic, but unfortunately the very type of girl who only too often needs such treatment cannot find time to attend more than once, or at most, twice a week. To come more frequently means for her the loss of her job, oftentimes that of a domestic, and usually this is tantamount to putting her on the street, as there is nowhere else she can receive the necessary in-patient treatment till such time as attendance at the clinic once or twice weekly is sufficient.

The display of notices and distribution of pamphlets and giving of addresses are matters to which it is hoped more attention can be given in future. Such propaganda is usually followed by requests for interviews and examinations (under reasonably private conditions).

A good deal of marital unhappiness and misunderstanding can be avoided by a discussion with a medical man who understands such difficulties, but the proper atmosphere and privacy for such interviews cannot be obtained in passages and lobbies.

A section for venereal diseases to be effective must provide more than specialised services in skins and genito-urinary conditions. A great amount of disability and economic loss is due to venereal phobias and neuroses, and it is just as necessary to cure these cases as those of a more organic nature, and with such cases first impressions are everything.

However, there will be a suitable room set apart in the new executive block for the Health Department where our requirements in respect to private interviews and examinations will be supplied. If plans and expectations are realised, then Queensland, before very long, will have one of the most complete and modern of anti-venereal diseases services, and considering our urgent need for population and the part played by venereal diseases as depopulating agencies, these reforms should be doubly welcome.

Ages V.D. Cases Notified, 1934–35.

——	Metropolitan Area.			Outside Area.			Totals.		
	Males.	Females	Total.	Males.	Females	Total.	Males.	Females	G. Total.
Unknown or unobtainable ..	12	9	21	20	5	25	32	14	46
1 year	2	1	3	1	..	1	3	1	4
2 years	1	..	1	1	..	1	2	..	2
3 years	1	2	3	1	..	1	2	2	4
4 years	1	2	3	..	..	..	1	2	3
5 to 10 years	4	9	13	5	11	16	9	20	29
11 to 15 years	2	4	6	11	6	17	13	10	23
16 to 20 years	68	30	98	39	36	75	107	66	173
21 to 25 years	144	62	206	80	23	103	224	85	309
26 to 30 years	136	31	167	55	15	70	191	46	237
31 to 35 years	84	19	103	43	15	58	127	34	161
36 to 40 years	51	9	60	24	11	35	75	20	95
41 to 45 years	33	7	40	18	4	22	51	11	62
46 to 50 years	24	4	28	10	4	14	34	8	42
51 to 55 years	17	3	20	6	3	9	23	6	29
56 years and over	15	2	17	10	2	12	25	4	29
Totals	595	194	789	324	135	459	919	329	1,248

MONTHLY INCIDENCE OF NOTIFICATIONS (WITH MARITAL STATUS AND DISTRIBUTION).

MARITAL STATUS OF NEW CASES NOTIFIED, 1934–35.

—	July.		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May.		June.		Totals, 1934–1935.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Married—																											
Metropolitan	17	8	13	11	16	6	5	7	14	6	10	4	11	8	5	2	13	5	16	7	7	2	8	2	135	68	203
Outside ..	4	..	7	2	12	8	2	4	2	5	5	3	9	4	4	2	8	5	5	3	10	8	6	1	74	45	119
																											322
Single—																											
Metropolitan	43	14	35	9	28	14	51	9	42	14	42	10	41	12	39	8	39	8	17	10	25	7	30	4	432	119	551
Outside ..	16	2	17	8	19	12	26	13	16	3	20	5	26	3	14	6	25	12	15	6	25	15	19	3	238	88	326
																											877
Separated—																											
Metropolitan	..	1	1	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	2	..	2	..	7	1	8
Outside ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	1	1	2
																											10
Widowed—																											
Metropolitan	..	..	2	..	1	1	3	..	1	1	..	..	..	..	3	1	1	..	3	..	1	..	2	1	17	4	21
Outside ..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	2	..	..	1	..	..	..	..	..	3	2	5
																											26
Divorced—																											
Metropolitan	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Outside ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Unknown—																											
Metropolitan	..	..	1	..	1	1	1	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	4	2	6
Outside ..	..	..	..	..	..	..	1	Nil	..	..	1	1	..	..	..	1	2	..	1	..	..	..	..	..	5	2	7
																											13
Totals ..																											
Metropolitan	60	23	52	20	46	22	60	16	57	21	52	14	52	20	49	11	54	13	36	18	35	9	42	7	595	194	789
Outside ..	20	2	24	10	32	20	29	17	18	8	27	9	35	7	18	11	35	18	23	9	35	23	25	4	321	138	459
																											1.248

SHORT PERIOD FEVERS IN NORTH QUEENSLAND.

For some years, and particularly during last year, the Department of Public Health has devoted considerable attention to the classification of fevers of short duration which occur in North Queensland.

For many years it was recognised that there were "fevers" in North Queensland, and in the kanaka days old residents identified empirically two entities apart from malaria—"cane fever" and "scrub fever."

Local medical practitioners were, owing to the absence of laboratory facilities in those early days, little better able to differentiate, and apart from malaria, occasional cases of filaria and the typhoid group, denoted the variable undifferentiated types by the general term "coastal fever"—admittedly an *asylum ignorantiæ*. A certain specificity in particular localities resulted in the occasional adoption of a locality name, such, for example, as "Mossman fever," "Sarina fever," &c. Though the names "Mossman fever" and "coastal fever," "scrub fever" and "cane fever" have been in use over a long period, the characteristics of the diseases to which they have been applied have by no means remained constant.

Twenty years ago, for example, the term "coastal fever" was applied to a syndrome, markedly different to that to which it is applied to-day, and the so-called "coastal fever" of the far North, differed in type and intensity from the "coastal fever" of the nearer North.

To the newcomer the picture was obviously similar to that in the Malay States where similar fevers were grouped as "seven-day fever" (which some undoubtedly were), "acclimatisation fever," and tropical typhus.

In 1923 it was suggested that certain of the groups might be "seven-day fever" of this varied type; and the same year the importance of the occasional infestation of man by mites of a type that conveyed spirochætosis in fowls, and the similarity of certain of the local fevers to the mite borne *tsutsugamushi* river fever of Japan invited investigation. (Cilento: *Medical Journal of Australia*, 19th May, 1923.)

Endemic typhus was seen in the same year at Atherton, but the serological reaction was not determined as between *Warsaw* and *Kingsbury* types. Endemic typhus contributed a considerable number of cases to each of the variable but definite outbreaks of "coastal fever," and subsequent to the survey of fevers made by Fletcher in the Malay States in 1926-27, it appeared likely that future investigation would indicate that the North Queensland series from the sugar and scrub areas included similar types. Leptospirosis was set down as a likely factor in the picture (Baldwin). Fortunately or unfortunately, according to the viewpoint, it was impossible to investigate this probability thoroughly owing to the scattered nature of cases and the absence of effective laboratory help, but attention was sharply directed to the matter in 1933-34 when

a series of cases in Ingham and its neighbourhood culminated in an outbreak, the total number of cases being 158, with a death rate of 4·4 per cent. Assistance was secured from the laboratories of the Commonwealth Department of Health, and the diagnosis of leptospirosis which had been formed on clinical evidence by the Medical Officer of Health, Ingham (Morrissey), was confirmed by microscopical tests, guinea pig inoculation, and serological findings.

The disease was recorded as " Weil's disease," but the impression gained ground, especially among those newly attracted to the problem, that it was a disorder newly implanted in the North. Leptospirosis is of long standing there, and doubtless of several leptospiral sub-types. The history of the cases and certain indications show close relationships with *Akiyami A* and *B* fevers seen in Japan, Malaya, and Sumatra, and doubtless through the whole of these geographical areas.

Much earlier than the 1922-29 investigations there had been reports of undiagnosed outbreaks of " fever." It is impossible at this date to assess or diagnose those earlier outbreaks which occurred in Mossman and other coastal areas. The only fact that emerges from a study of previous literature is that the group was a very variable one. In 1906-07 there was an outbreak diagnosed as " plague " largely because it was associated with swarms of rats. It was not possible adequately to investigate this occurrence, but it was met by the burning of the sugar-cane and scrub lands with a view to destroying the rats which were felt to be its carriers. The initial outbreak, as in the other cases, was succeeded by a long-drawn series of minor and varied outbreaks and general descriptions of these latter occurrences by Smithson in 1910 and Clark in 1913 emphasised mainly the characters of those late cases seen by these officers personally. These are usually a typhus group.

Old residents have long associated outbreaks of " cane fever " with exceptionally heavy wet seasons, and it is commonly anticipated that there will be " fever " among cane cutters whenever these conditions recur.

In 1933 and 1934 the rainfall was extraordinarily heavy and continuous throughout almost the whole of the year, so that the usual clearing of canefields was to a considerable extent impossible. The very great increase of the undergrowth provoked an enormous increase of rats and bandicoots, which found additional food supplies under these conditions, and mass migrations of rats took place and were commented upon by many observers. Significant enough, as comment upon the date of implantation of these diseases, is the fact that the infection was found commonly in the native rodents (*Rattus culmorum* and *Melomys littoralis*), rather than in imported types, and the bandicoot was also found occasionally to be infected.

It may also be mentioned that in 1929, six cases of a sickness occurred near Tully that might have been either typhus or leptospirosis. The records of the examining laboratory stated that the disease was negative to typhoid-paratyphoid strains ; to *B. abortus* ; and to three strains of *Proteus* X 19. The significant feature, however (Spencer), was that hæmorrhage was observed definitely in the lungs of two experimentally inoculated guinea pigs.

Deaths from " ? yellow atrophy of the liver " have also occurred on rare occasions, and in the light of recent work are obviously fatal cases of leptospirosis. Whether due to *L. icterohæmorrhagiæ* is another matter ; Fletcher in 1927 found only one case (fatal) of *L. icterohæmorrhagiæ* among his Malayan series, the great majority being of the Japanese " harvest fever " types, *i.e.*, *Akiyama* types *A* and *B*.

Hindle in the M.R.C. system of Bacteriology describes these organisms and the associated syndromes thus :—

" A disease referred to as *Akiyami* or harvest sickness has been known for many years in Japan, especially in the province of Shizuoka, near the River Oi. The epidemiology of the disease recalls that of seven-day fever, since all classes of people are liable to be attacked, not particular groups as in the case of Weil's disease. Clinically the disease resembles a mild form of spirochætal jaundice. There is a sudden onset of fever which lasts for five to eight days, terminating with lysis.

Kitamura and Hara (1918) were the first to prove the spirochætal origin of this disease as they were able to infect guinea-pigs by the inoculation of blood and urine from patients and to obtain a culture of the organisms. The spirochætes obtained were found to belong to two distinct types, one of which produced fatal infections in guinea-pigs, with jaundice and hæmorrhages; whilst the other type was almost non-pathogenic towards adult guinea-pigs. This very surprising discovery was confirmed by Koshina, Shiwozawa, and Kitayama (1924), who also found that two types of spirochætes occurred in patients suffering from this disease. One type, referred to as *Akiyama* Type A, was found to approach *S. icterohæmorrhagiæ* in its characters, but could

be distinguished serologieally, whilst the other variety, ealled *Akiyami* Type B, was found to resemble elosely *S. hebdomadis* both in its pathogenie and serologieal eharaeters. Further observations, sueh as those of Stefanopoulo and Hosoya (1928) have eonfirmed these views, and now *S. autumnalis* Type B (= Akiyami B) is generally eonsidered to be identieal with *S. hebdomadis*. *S. autumnalis* Type A on the other hand, can be distinguished from *S. ictero-hœmorrhagiœ* by its serological eharaeters.

The two types grow together in the same eultures, and are both killed by exposure to 45C Type B, however, is mueh more resistant to variations in the pH of the medium than Type A.

Guinea-pigs may readily be infected with *S. autumnalis* by either pereutaneous or intra-peritoneal inoeulation of eultures or other infeeted material. After a short febrile period the temperature falls and the guinea-pig shows jaundiee of the selerotie and integument. Finally, hæmorrhages appear in the nasal mueosa, and the genital and anal regions, and death usually oecurs four to five days after the date of inoculation. The post mortem features elosely resemble those of guinea-pigs dead of Weil's disease, but the hæmorrhages are generally more abundant in the ease of infeetions of *S. autumnalis*. The spiroehætes oeeur in very great numbers in the liver, but pure eultures are best obtained by eollecting a few drops of heart-blood.

The infection is diffieult to reproduee in the rabbit, but Stefanopoulo and Hosoya (1928) succeeded in infeeting one out of six rabbits by the intra-testieular inoeulation of a highly virulent eulture. This rabbit died with symptoms of jaundiee six days later, and spiroehætes were observed in its heart-blood. Field mice, *Microtus montebelloi*, eolleeted in a distriet where the disease was prevalent, were found to be passing in their urine organisms which corresponded with Type A in their virulenee.

Type B (= *S. hebdomadis*) on the other hand rarely produees any signs of infeetion in guinea-pigs and never in rabbits ; yet in man it produees the same type of disease as Type A.

It would seem that elinieally it is almost impossible to distinguish eases of infeetion with *S. autumnalis* (Akiyami Type A) from eases of seven-day fever eaused by *S. hebdomadis* (Akiyami Type B). It is more reasonable, therefore, to assume that the two infeetions oeeur side by side and have been eonfused, than to aeeept the original view that the same disease might be eaused by two distinet types of spiroehætes. Consequently the eause of Akiyami disease is referred to simply as *S. autumnalis*, the so-ealled Type B beeoming a synonym of *S. hebdomadis*."

This very exaetly mirrors elinieally the position seen in 1934 and in 1935. Of the 158 eases of 1933-34 (Morrissey), only 13·2 per eent. showed jaundiee, *i.e.*, less than one-seventh instead of the usual half or thereabouts. The death rate was 4·4 per eent. One group of eighty showed not a trace of jaundiee. Of the 158 very few (not more than twenty) were baeteriologieally examined and probably some, if not many, were eases of endemie typhus, and not of leptospirosis. Serelogieally these eases reaeted very readily to their own strain, but in Cotter's experiments they reaeted poorly to the grouped European strains eontained in the leptospiral serum of Burroughs Welleome.

In the cases of the 1935 series no one would have suspeeted leptospirosis, but for the outbreak of 1934. They were simply the usual "seven-day fever" series seen every year for many years in some part or other of the eanegrowing area. Twenty-five were diagnosed ; of these seven were probably mild epidemie influenza with infeeted eyes, eommon at the time along the whole eoast ; six were positive, but mild eases, reaeting to the strains isolated in 1934 ; the remainder in spite of repeated blood and urine tests and guinea-pig inoculations were negative but gave reaetions of low titre to the 1934 strains. They may have been *L. hebdomadis* reaeting to other leptospiral groups, mild eases of Weil's disease, or old eases of *L. autumnalis* or *L. icterohœmorrhagiœ* from previous years with influenza as an immediate disorder. All were mild ; no ease was jaundieed ; all left hospital within a week or two.

At my suggestion, thirteen of these eases were tested against typhus ; some gave a high, other gave a positive of low titre ($\frac{1}{320}$ to $\frac{1}{40}$). One at least was a definite ease of endemic typhus. The diseases as mentioned previously eoexist, the latter tending to dominanee and eontinued sporadie oeeurrence from season to season.

Topley, Buehanan, and also Sardjito and Zuelzer have all emphasised the extreme suseeptibility of typieal *L. icterohœmorrhagiœ* to variation of the hydrogenion eoncentration. Buehanan points out that it will live to ninety-five days in soil and seventy-five in water, if these are not aeid, but that aeid destroys it. Sardjito and Zuelzer set its range at 7·3 to 8pH at an optimal temperature of 82°-86° F (28°-30°C.).

Samples of soil and water were consequently examined from every area on which a case had occurred ; and special attention was devoted to those farms where cases had occurred in each of the years 1933, 1934, and 1935.

The Department of Agriculture, Brisbane, reported that in *every case* the soil was acid, and *often intensely so*. No finding rose above 6 ; the great majority were from 5·2 to 5·7, and some (4·7, 4·8, and 4·9) were among the most acid soils ever recorded here for agricultural lands. The same applied to the waters lying on the soils. It would appear, therefore, that any focus of infection of *L. icterohæmorrhagiæ* must be in the rats themselves, since the organism could presumably not persist in such soils, and this may explain the relation to rain. Heavy rain (light showers produce no such effect) is followed by cases which disappear with dry weather. It would seem that heavy rain may dilute the surface water to such a degree that organisms derived from rat urine (and the rats are driven up into the canefields by the flooding of the lower areas) may flourish until the acidity of the water increases by drying. The cases this year were remarkably related to two just such heavy downpours, and new infection ceased within four days of them.

Hindle points out that infection with *L. icterohæmorrhagiæ* produces a great variety of clinical symptoms, ranging from slight jaundice of short duration up to a fatal hæmorrhagic jaundice. Different races of leptospiræ produce degrees of virulence varying to such a degree that it is almost impossible to find any characteristic clinical features of the disease, except with highly virulent strains.

One feature of interest in the Ingham cases may have been the depressing effect of coincident hookworm disease. The cane areas are heavily infested and the percentage of infestation among the canecutters who formed the chief group of sufferers is as high as 19 to 25 per cent.

The co-existence of leptospirosis and typhus is now realised locally, but there is a tendency among local practitioners who are newly aware of these cases to say that canecutters, if sick, must have leptospirosis, and that this is a serious disease ; while the sick of other groups must have endemic typhus and that this is a trivial malady. Both are dangerous working maxims.

The suggestion that leptospirosis is always found among workers in cane is incorrect. The first case in Ingham occurred before canecutting commenced, and in a man who had not cut cane or touched it for seven months ; the death from Weil's disease that occurred near Babinda in March, 1935, was in a farm hand who had never cut green cane ; the solitary case at Gordonvale in 1935 was in a boy who had been felling scrub in marshy land, and his infection was accidentally discovered when he and all his companions (5) were already diagnosed as endemic typhus. (A " trivial " case of endemic typhus died on 27th July, 1935.)

Jaundice is not an infallible indicator of virulence as some suggest ; many who were not jaundiced were seriously ill ; the boy mentioned at Gordonvale was jaundiced and was the least sick of his group.

It is not to be supposed that leptospirosis exists in Queensland only in the North and only in association with canegrowing. Favourable factors occur throughout the whole coastal belt and in the cities, and doubtless cases will be discovered sporadically in these areas from time to time. It is suggested that the North Queensland series of fevers is identical with the typical Eastern Asian complex, *i.e.*, Akiyami A (*L. autumnalis*) resembling *L. icterohæmorrhagiæ* ; Akiyami B (*L. hebdomadis*) ; endemic typhus (not mite borne) ; and endemic typhus (probably of the Japanese river fever type—mite borne). Dr. Unwin of Tully believes he has seen 1,500 cases of the mite borne and non-mite borne typhus since 1929, and in several cases definite bites and eschars possibly from mites was seen by officers of this Department. Further work obviously remains to be done on various aspects of the case.

Typhus Fever.—As mentioned above it has been recognised for many years that endemic typhus existed in North Queensland, and both rural and urban types have been identified. Endemic typhus has also been recorded for many years from Southern Queensland.

Brill's Disease has been recognised for many years as occurring in Southern Queensland, and chiefly notified from Brisbane or the grain growing Downs. Generally, the patient has had close contact with grain in some form or another, or rodents that infest it. During the great mouse plague of 1925 for example many people in the Downs country were attacked by a fever which exhibited at first sight the prostration and many other symptoms of typhoid fever, together with

a rash simulating the rose spots noticed in that fever. The pyrexia was atypical, continued for about fourteen days, and fell by lysis. Sporadic cases have since occurred, and the following description of a Brisbane patient is fairly typical :—

8th April, severe headache and pains in the back ; no relief from A.P.C. powders.

14th April, rigors for past week at night, beginning to feel pains in legs. Temperature 104·8°, mostly rash on abdomen, armpits, and arms.

17th April, seen by Dr. M——. Appearance flushed, temperature 104°, pulse 100, respiration quiet, tongue thickly furred and dry, throat clear, morbilliform rash on abdomen, groins, and armpits.

19th April, Weil-Felix : Proteus X 19. 1-50.

20th April, rash fading, skin dusky hue, drowsy. Evening temperature 104·6° pulse rate 112.

21st April, complained of stiffness and pain in jaw, knees, and fingers.

22nd-24th April, temperature to normal by lysis, 16 days after beginning of illness.

No actual delirium occurred, but the patient remarked, during his convalescence, that there were occasions when " he felt light-headed and experienced a feeling of falling." An outstanding symptom was the patient's feeling of exhaustion during the course of the illness. He was employed as accountant in a wheat and produce store, and had noticed an itchy " measly " rash on the inner parts of the thighs for about a fortnight before he became ill enough to call in medical aid."

Rat Control Operations.

It has previously been mentioned that, owing to big increases in the food supplies, failure to clear harbourage and so forth, a vast increase in the number of rats and mice preceded the outbreak of leptospirosis in North Queensland in 1933-35. Not only from the medical, but also from the economic point of view, it has represented a serious problem. Rats attacked the sugar-cane very seriously, and it was suggested that 18 per cent. of the stalks were rat bitten to some degree. Rats usually attack the cane as the sugar content begins to rise, travelling backwards and forwards between the cane and their nests and breeding-places on the banks of neighbouring creeks or stagnant pools. Though the rat may gnaw the cane only in one place, fermentation is set up at the bitten spot, and a considerable part of the whole stick is ruined. It was most noticeable in the Ingham district that the chief factor in deciding what cane should be attacked was the nearness to river banks, creeks, and swamps where good supplies of seedy grasses, protein-rich foods, debris, &c., offered food, shelter, and breeding grounds. Uncultivated gullies in farm areas or small patches of rank growth between neighbouring farms were strong posts, the rats often progressing further and further into the cane along its lowest and dampest ground levels. Stand-over cane from the previous season, which had become twisted and " lodged " was particularly frequented by rats because of the cover it gave from hawks and other natural enemies. The fecundity of the rat also was remarkable.

Where natural food was readily available it was found the rats would rarely take baits, and in no circumstance would they take the same bait nor any bait continuously. Baits, needed protection, too, against rain or mildew, and in making them rainproof, trade poisons were so thoroughly coated in many instances that they became ineffective. On the ground that rats will only take baits when they are hungry because other food has been destroyed, and when the destruction of harbourages forces them into canefields and places where baits can be laid and subsequently supervised, strenuous efforts were directed in the first instance towards the destruction of cover. The roads in the Ingham area were largely tracks through heavy secondary scrub ; railway lines and watercourses both also swarmed with rats and were lined with their nests.

With the co-operation of other State Departments, a combined drive for burning and clearing was instituted. The Health Inspectors allocated to the work burnt completely all cover on the whole width of 72 miles of road and dealt more lightly with many miles of secondary tracks. Dirty patches on farms were eliminated, the burning commencing towards the end of the harvest when there was little danger of accidental damage to property. Following the burning an intensive campaign of poisoning was instituted. The poisons were phosphorus, squill, strychnine and, to a minor degree, thallium—the lastnamed being used with some doubt owing to its being a contact poison. Unprotected phosphorus baits were considerably more effective than other poisons, but rapidly lost their value. On the other hand the loss was easily restored, and the baits were cheap, whereas the heavy rains ruined

other poisons just as rapidly and the loss financially was very much heavier. Two hundred and fifty thousand baits per week were laid, and the results carefully checked—baits "taken," "nibbled," and "left" being counted. Untouched baits were taken up, inspected, and relaid if suitable. In all, some 3,000,000 were placed, with a very high percentage of "takes." It is intended to repeat this process from time to time and subsequently to burn, at the end of the canccutting season, all available areas throughout the whole district.

Flame throwers, based on the types used during the war, were utilised over a large area and were found effective if supervised. The results, coupled with the dryness of the 1934 season, were most satisfactory in reducing the numbers of rats. Forty per cent. of farmers reported in June that their cane was not at all attacked; 32 per cent. reported "attacked very lightly"; 31 per cent. "little"; 4 per cent. "heavy"; and none reported "very heavy"; 96 per cent. announced a very definite decrease in the rat population.

Special regulations were promulgated to meet the circumstances, and funds were made available through a Government grant of $33\frac{1}{3}$ per cent. of the total costs, a levy of 3d. per ton on sugar-cane, paid partly by the growers and partly by the millers, and a rate of an equivalent amount on the ratepayers of the shire concerned.

With the aid of the very dry season the destruction of the harbourage and food supplies, the attacks of natural enemies and so forth, the general picture slowly approached normal, and the disease picture became normal with it. The possibilities of future years however still occasion anxiety.

The intensive measures which have been put in force for the destruction of rats in the cane-fields should prove equally valuable for reducing endemic typhus fever in the same areas. They could with profit be extended to other areas.

Local Authorities, therefore, throughout the State are advised to give additional attention to the destruction of rats. This entails the well-tried measures of "building out" the rat, destruction of harbourage, poisoning, trapping, and the use of dogs. The co-operation of the citizens should also be invoked or commanded in securing and maintaining the cleanliness of their surroundings, particularly the control of garbage, and those scraps of food, and other refuse on which the rat feeds. In support of these measures Health Inspectors could possibly make more careful house-to-house inspections.

During recent field investigations in the cane areas of North Queensland it was found that the conditions obtaining round and in cane cutters' barracks were very unsatisfactory, and required much improvement in sanitary control.

The value of all anti-rat measures as a defence against the ever-present danger of the introduction of plague is to be constantly remembered.

Sanitation.

The following is an outline of the work accomplished by the sanitary inspection staff for the year ending 30th June, 1935:—

General inspections	1,710
Nuisances	250
Sanitary depots	11
Refuse disposal areas	22
Official calls	171
	2,164
Number of towns visited	35

Owing to a depleted staff at Headquarters and the existing financial stress, much outside inspection has had to be curtailed. Nevertheless where visits have been made a steady advance in sanitary control is obvious throughout.

This is evinced by the reports of the Departmental officers and the reports of Local Authorities' Health Inspectors, which are submitted to the Department regularly. These reports show that stricter supervision is being maintained.

The monthly reports which Local Authorities' Inspectors are required to submit to this Department are carefully perused, and where necessary advice or instructions are given on relevant matters.

Various seaside resorts were visited prior to the Christmas holidays in regard to beach sanitation. Big improvements have been carried out for the convenience of the visiting population. At Southport new pavilions of brick and cement with the necessary dressing accommodation and lavatory blocks have been constructed.

The institution of the Camp Regulations has been a boon to these seaside resorts, especially to the local officer, who is now provided with the necessary machinery whereby vacant private blocks are no longer allowed as camping grounds unless the owner conforms to the regulations regarding provision of sanitary conveniences and a potable water supply.

During the year five patients were conveyed to the Lazaret, Peel Island, and one brought from Peel Island to South Brisbane Railway station, and placed in the care of an officer from Sydney for transfer to the Lazaret at that centre.

At the request of the Chairman of the Trustees of the Girls' Grammar School the lavatory block and septic tank were inspected owing to a leakage taking place. Advice and suggestions were given and the architect instructed to carry out the work. When completed it should eliminate the nuisance.

By-laws for the following Local Authorities were perused and amended where necessary :— Tara Shire, Douglas Shire, Cook Shire, Moreton Shire. Sanitary contracts for the following Local Authorities were perused and where necessary altered before approval :—Nerang, Warwick, Harrisville, Proston, Wondai, Bundaberg, Eacham, Kandanga, Amamoor, Imbil, Brooloo, Widgee, Dirranbandi, Thursday Island, Esk, Toogoolawah, Moore, and Linville, (Esk Shire), Herberton, Stanthorpe, Redcliffe, Cardwell, and Tully.

The annual inspections of hotels were carried out in conjunction with officers of the Police Department. The combined inspection still proves satisfactory and avoids any unnecessary overlapping :—

Number of hotels inspected	194
Objections lodged	109
General repairs	92
Painting	32
Drainage	10
Septic tanks	2
Water closets	6
Earth closets	17
Bathrooms	14
Urinals	17

The licensing areas inspected were :—Sandgate, Redcliffe, Petrie, Caboolture, Beerwah, Ipswich, Boonah, Samford, Dayboro', Cleveland, and Bundaberg.

The number of country hotels inspected by Head Office staff was 54, and notices were served for repairs and alterations on 29. Twenty-seven specimens of water were collected for bacteriological, and 58 for chemical, analysis.

Plague prevention work is still being carried out by the following Local Authorities (most of which are on the seaboard front), and weekly rat returns are forwarded to this Department :—Brisbane, Ipswich, Gympie, Maryborough, Bundaberg, Mackay, Townsville, and Cairns.

The number of rats caught in the metropolitan area was 49,256.

The following towns were visited by Head Office staff :—Monto, Eidsvold, Mundubbera, Gayndah, Byrnestown, Gooroolba, Degilbo, Biggenden, Dillarnil, Cordalba, Childers, Gin Gin, Mount Perry, Howard, Torbanlea, Tiaro, Gundiah, Theebine, Gunalda, Charleville, Cheepie, Adavale, Thargomindah, Cunnamulla, Wyandra, Morven, Mungallala, Mitchell, Muckadilla, Roma, Wallumbilla, Yeulba, Miles, and Chinchilla. In most of these sanitary services are in operation, and thanks to the officers in charge are being well worked.

As a result of a complaint received, two visits were made to Monto, and a scheme for the deep drainage of the business portion of the town was discussed with the Council. A resolution to proceed with the scheme was adopted, and a site for the disposal of the resultant waste was selected.

This forward move for the benefit of the citizens of the town is gratifying and to the credit of the councillors.

As a result of letters received from the Commercial Travellers' Association regarding the installation of a septic tank at the Royal Hotel, Nambour, a visit was made to that town. After inspection a report was made that as the area of ground was small and no water supply was available, a grave nuisance was likely to occur and, in consequence, permission should not be granted.

Kilcoy was visited in regard to the drainage at the new hotel and a scheme for its disposal evolved.

Southport was visited regarding a complaint of stagnant water and a report and recommendations made.

Esk was visited in respect of the disposal of the drainage and the matter was suitably dealt with.

Maroochydore. A journey was made to this resort for the purpose of inspecting prior to approval, the installation of a septic tank and W. C.'s; the work was found to have been carried out in a satisfactory manner.

A further visit was paid to Southport in respect of beach improvements. The Council is to be congratulated on its foresight in constructing five new pavilions with attendant lavatory accommodation and septic tanks for the use of the public. These will be appreciated by the increasing number of visitors to this popular seaside resort.

Bundaberg was visited to investigate the conditions of the sanitary contract, and a report with recommendations was submitted.

At the request of the Bureau of Industry a visit was paid to the Stanley River Dam site, and matters of drainage and the treatment of the resultant wastes investigated and advice given. At the same time a site was selected for the disposal of nightsoil and garbage.

Tingoora, Wondai, and Kilkivan were visited regarding hotel sanitation.

Toowoomba.

The District Officer in Charge reports as follows :—

Town and Country Inspections.

Number of inspections	1,209
Official calls	231
	1,440
Number of nuisances	91
Number of sanitary depots inspected	23
Number of garbage tips inspected	41
Number of towns visited	14
Number of miles travelled—	
By car	160
By train	1,557

New foul water sewerage works have been completed at the towns of St. George and Stanthorpe, and thereby nuisances of long standing have been abated.

At the City of Toowoomba the matter of the pollution of Gowrie Creek still remains an unsolved problem. This omission again emphasises the urgent necessity for measures adequate to effectively control the pollution of rivers and watercourses in Queensland. This is particularly the case where continued dry weather periods leave dairy farmers and other settlers no alternative but to resort to the fouled watercourse for dairying and household purposes.

At the Town of Warwick the scheme for a town sewerage system still remains in abeyance. This is a matter for which the Local Authority is not to be commended in view of the ever-present nuisance arising from foul drainage (including septic tank effluents) discharging into street water channelling.

Hotel Sanitation.

Number of hotels inspected	165
Number of objections lodged	41
Number of hotels re-inspected	15

Licensing Districts visited :—Toowoomba, Warwick, Stanthorpe, Inglewood, Goondiwindi, St. George, Pittsworth.

Towns visited :—Warwick, Milmerran, Brookstead, Pittsworth, Southbrook, Dirranbandi, Thallon, Nindi Gully, St. George, Goondiwindi, Yelarbon, Inglewood, Texas, Stanthorpe.

The steady general advancement in the sanitation of premises licensed under the provisions of "*The Liquor Acts*, 1912 *to* 1926," has been maintained during the year under review, but a great deal more remains to be done before such premises can be considered as having reached a sanitary standard which reasonably fulfils the requirements of the present-day travelling public.

Rockhampton and District.

The Officer in Charge reports the following activities carried out in his district :—

Number of inspections	1,132
Number of official calls	115
Number of nuisances inspected	26
Number of sanitary depots inspected	22
Number of garbage tips inspected	16
Number of towns visited	10
Miles travelled—	
By train	648
By car	416

The following towns were visited during the year and general inspections carried out :—Cawarral, Emu Park, Gladstone, Mount Larcom, Mount Morgan, Mount Usher, St. Lawrence, The Caves, Yaamba, Yeppoon. Matters of general sanitation have received attention throughout the year both in the city and country.

One of the most important matters dealt with by the Rockhampton City Council was the question of providing a sewerage system for the city, and it ultimately decided in favour of such a scheme.

The City Engineer's report on the proposal, together with his estimate has also been received by the Council, and it is anticipated that the scheme will be proceeded with.

The erection of a suitable incinerator at the Cotton ginnery has also been carried out, and the resultant nuisance reported last year has been entirely abated.

Samples of water were taken and submitted from the swimming pools of two leading schools. As a result of the examination satisfactory reports were returned. A special visit was paid to St. Lawrence for the purpose of making a sanitary survey with a view to a sanitary service being put into operation. A report and recommendations were submitted.

Special attention was paid to the seaside resorts during holiday periods.

A detailed report regarding Emu Park drainage was submitted and the Local Authority responsible has decided to carry out the proposals submitted by the Department. These when completed should effect a decided improvement.

Hotel Sanitation.

Number of hotels inspected	75
Number of objections lodged	47

The Licensing Districts visited were :—Rockhampton, Gladstone, and Mount Morgan.

The majority of objections referred to bedrooms, kitchens, drainage, and sanitary conveniences.

In addition to the above three hotels in the city have been entirely reconstructed, while plans have been prepared and arrangements are in hand for the reconditioning of a fourth.

It was noticeable this year that hotel owners were less reluctant to carry out repair work than during the last two years.

Mackay and District.

The officer in charge outlines the operations in his district for the period ending 3rd June, 1935.

The year has shown steady progress.

The Mackay Outer Harbour Scheme is now in course of construction, the sewerage scheme also is progressing. The first section is expected to be in operation by the month of October.

Hotels are in better order; notices have been issued to the Mackay hotels within the sewerage area to effect the improvements necessary by way of the installation of water closets and the connection of all sanitary fittings to the sewer when the scheme is ready.

Sanitation is fair in both city and shires. All depots are in order. Chinatown, the one blot on the city, has been demolished.

The Council is to be congratulated on this work as the removal of these old unsightly, and dilapidated hovels is a progressive step.

Sanitary Inspections.

Number of inspections	1,246
Number of official calls	85
Number of nuisances inspected	56
Number of sanitary depots inspected	17
Number of rubbish tips inspected	25
Number of towns visited	47

Cairns and District.

The officer in charge of this district has furnished the following particulars as to work carried out in the above district for the past year.

During the early part of the year I made a tour of nearly the whole of the district and would submit the following details of inspections made :—

Number of inspections made	1,974
Number of official calls	93
Number of nuisances attended to	7
Number of sanitary depots inspected	14
Number of towns visited	33
Number of miles travelled—	
By rail	2,973
By motor	415
By boat	660

Although the number of towns visited is given as thirty-three, some of these were visited as often as twelve times.

In the City of Cairns improvements in the sanitary services continue to be made, while the Shire services are being extended in some parts. In other areas new depots have been started and improvement is noticed in most country places.

Hotel Sanitation.

During the year inspections were made under section 63 of the Liquor Act and five notices were served.

The following licensing areas were visited :—Cairns, Atherton, Herberton, Chillagoe, Innisfail, Thursday Island, Cooktown, Douglas, and Mareeba.

Townsville and District.

The inspector in charge of the Townsville district reports that he has been fully occupied for about nine months of the period under review in connection with the Weil's disease outbreak in the Ingham district. The campaign which is still being carried out will be the subject of a special report when the operations cease towards the end of the year.

An inspector from Headquarters was detailed to assist the District Inspector in the routine Departmental duties.

Inspections	45
Official calls	19
Nuisances	10

Hotels (Ingham only).

Number of hotels inspected	17
Number of objections	14
Re-inspections	33

The outstanding objections at these Ingham hotels were the number of drainage nuisances. The drainage, including that from septic tanks, was being discharged on to the open ground and into Palm Creek, causing very offensive stagnant pools which were breeding myriads of mosquitoes.

Sub-surface irrigation schemes were designed and constructed and serious nuisances thereby eliminated.

Food and Drugs.

During the fiscal year 1934-35 the work of this division has continued upon the usual lines, and has consisted in the enforcement in the Brisbane metropolitan area and throughout the entire State of the provisions of Part VI. of the Health Acts (Food and Drugs), the Food and Drug Regulations, Milk-sellers Regulations, Health (Food Supply) Regulations, Fish Supply Regulations, Poisons Regulations and Footwear Regulations,

Milk Supply.

The work of controlling the milk supply of the metropolis and its environs has again been systematically carried out as vigorously at the limited staff has permitted. Much remains to be done, but only additional staff and facilities can render possible the proper control at all points of production and distribution. The work done during the year can best be reviewed as follows :—

Bacteriological.—The number of samples submitted for bacteriological analysis shows an increase of 8·5 per cent. on the figure for the previous year. The samples were obtained from farms, wholesale and retail deliveries, milk bars, cafés, and other shops. Of these 83 per cent. attained the required standard—approximately the same percentage as for the year ended 30th June, 1934. Towards the end of the period under review a commencement was made in obtaining samples from all suppliers to the wholesale depots. At the same time an investigation was made into the condition of the cans in which the milk was being forwarded. Many of these cans were found to be in such a state as to render necessary the inspection of all cans arriving at the various depots.

The work of inspecting the cans was systematically carried out in conjunction with an officer of the Department of Agriculture and Stock, and as a result 135 cans were condemned outright and 498 were marked for retinning or other attention before they were again permitted to be used.

A number of dairy premises have been visited during milking operations in connection with samples of milk therefrom which upon analysis showed an excessive number of organisms to be present. When investigating the causes of such excessive bacterial counts at their premises, it is usually found that the fault lies in neglect or ignorance in respect to simple details of dairy hygiene, and advice given to the proprietors has usually resulted in subsequent samples showing marked improvement. The best results, however, cannot be expected until regular visits to all dairies during milking hours are made possible.

Considering the facilities in operation at the present time the bacteriological condition of the milk supply generally can be regarded as satisfactory.

Chemical.—The number of samples submitted to chemical analysis showed an increase of 11·5 per cent. on the figures for the previous year. Of these, 1,907 were obtained in the city and suburbs, and at Ipswich, Redcliffe, Sandgate, Nudgee Beach, Cribb Island, Wynnum, Manly, and Beenleigh. In addition, 108 were obtained at Coolangatta, Currumbin, Burleigh, Palm Beach, Southport, Bundaberg, Maryborough, Gympie, Charleville, Mitchell, and Roma, giving a grand total of 2,015 for the year. Details of the analyses are shown in the report of the Government Analyst.

Inspection of Premises.—Numerous inspections of milk vendors' premises have been made and several offenders were prosecuted for having used premises other than those specified in their licenses for the conduct of their businesses. These referred to vendors who washed and stored their cans and utensils on residential premises where no proper cleansing and storage facilities were provided.

Wholesale Depots.—Regular visits have been paid to the several wholesale vendors' premises. Towards the close of the year an investigation was made in conjunction with an officer of the Department of Agriculture and Stock into the general conditions of these depots. As a result it was realised that while some of them maintain a very fair standard, others are far from satisfactory for the handling of milk in a proper manner, having due regard to the Public Health. These latter conditions are due mainly to the generally unsatisfactory state of the whole industry at the present time, and to the constant expectation of the establishment of Government-controlled depots. However, it is anticipated that in the near future all these depots will be brought up to a proper standard.

Milk from a Certified Dairy.— As mentioned in last year's report, Regulations were gazetted dealing with certified milk and milk from a certified dairy. On the 10th April of this year the first license was issued under these regulations for the sale of milk from a certified dairy, and it is pleasing to record that all samples obtained from this supply for bacteriological and chemical analysis have complied with the standards laid down.

Milk Bars, Cafes, Shops.—These have been visited as opportunity offered, and samples of milk obtained for bacteriological and chemical analysis. The establishment of a large number of milk bars in recent years has greatly increased the quantity of milk sold in the city area. In addition almost every small shopkeeper in the metropolis is now engaged in the sale of milk, and proper control of this supply will entail a vast amount of work in the future.

Milk Prosecutions (Headquarter's Staff).—Fifty prosecutions were instituted against milk sellers for breaches of Part VI. of the Health Acts, and of the milk sellers' Regulations, as against thirty-two in the previous year. All of these were successful, and penalties amounting to—Fines £160 10s., and costs £51 15s., were imposed.

Remarks on Prosecutions.—There were thirteen prosecutions for milk adulterated with water, twelve of which were in connection with the city milk supply, and one at Ipswich. The percentage of added water present ranged from 4·5 to 23·6 per cent. Two of these were for second offences. One prosecution was for water carried on a milk delivery vehicle and one for fat deficiency in the milk. Details follow on list A herewith.

Ten persons were prosecuted in connection with samples of milk the analysis of which showed excessive bacterial counts, as aginst four in the previous year. The counts in these cases ranged from 2,101,000 to 19,080,000 micro-organisms per c.c. Details appear on list B herewith.

Five persons were prosecuted for having sold milk which was bottled in a manner contrary to the Regulations.

The remaining twenty prosecutions were on account of various breaches of the law by milk vendors in regard to premises, vehicles, receptacles, and having sold milk without first obtaining the necessary license ; for details, *see* list C.

Liquor Testing.—Hotels were periodically visited for the purpose of general inspection as to cleanliness of premises and protection of foodstuffs. The testing of alcoholic liquors was also carried out, and in this connection it was found necessary to prosecute three hotelkeepers for having sold spirits adulterated with added water, whilst two were charged with selling rum not true to label. For details, *see* list E.

Bread.—Inspection of bakehouses and the weighing of bread has received attention at the hands of the Headquarter's staff, and four Brisbane bakers were proceeded against for having in their possession lightweight loaves. For details of prosecutions, *see* list F.

Fruit and Vegetables.—Throughout the year constant supervision has been maintained by the Department's officers with regard to the sale of fruit and vegetables contaminated with poisonous spray residue.

As a result of such control some 3,260 cases of apples and pears imported from a Southern State were discovered to be contaminated with excessive quantities of lead and arsenic. Before this fruit was allowed to be sold the local agent was required to clean it in order to render it safe for consumption.

A Brisbane agent who, after receiving an officer's instructions to clean the fruit, sold a consignment of contaminated apples, was proceeded against for a breach of "The Food and Drug Regulations, 1928."

One consignment of cabbage arriving at the Brisbane market was contaminated with arsenate of lead, which resulted in the lot being condemned and destroyed and the grower of the vegetable appearing in the summons court. For result of prosecutions, *see* list D.

Fish Supply.—Working under the Health (Fish Supply) Regulations, two inspectors have supervised the early morning and midday sales at the State Fish Market, Brisbane, and have, in addition, inspected all consignments of smoked fish arriving from overseas at the wharves. They have also maintained supervision of hawkers and fish dealers' carts at the market, and have paid periodical visits of inspection to fish shops in the city area.

Unsound Fish.—During the twelve months ended 30th June, our inspectors have condemned and witnessed the disposal of 38 tons 0 cwt. 1 qr. 7 lb. of assorted fish found by them upon examination to be unfit for human consumption. In addition to which 435 crabs, 212 lb. of oysters, 112 lb. of lobster tails and 2 turtles have been rejected as unfit for food, which total indicates a considerable improvement in the condition of fish arriving at the market. In this connection the inspector in charge ascribes the fact that fish is now being received in better condition, his visiting, as opportunity has offered, most fishing centres and instructing fishermen in proper methods of packing and consigning their catches. An additional factor in this regard is the provision of better road facilities permitting quick transport of fish by motor truck, thus enabling it to be marketed at the early morning sales. Fish is now conveyed to Brisbane by this means from Ballina, Byron Bay, Brunswick Heads, and Tweed Heads in the South, and from as far North as Noosa Heads, Mooloolaba and Maroochydore.

In consequence of shipping companies adopting a certain improvement suggested by our inspector in the packing of fish in their vessels' refrigerators, supplies from overseas now arrive in excellent condition, and during the past year none of this fish has been condemned on the score of decomposition.

Unsound Food.—As a result of inspection of premises and stocks, officers of the Headquarter's staff have during the period under review certified to the destruction of 12 tons 19 cwt. 1 qr. 16 lb. of unsound foods. In addition, 3,300 fresh rabbits received on the Brisbane market were destroyed as unfit for human consumption.

Food Inspections Generally.

General routine inspections of food, drugs, and poisons have been carried out, such supervision extending to auction rooms, warehouses, fire stocks, markets, wharves, showgrounds, racecourses, &c. In addition to inspections made in the Brisbane metropolitan area the Headquarter's staff paid visits to the following outside and country places:—Adavale, Alexandra Headlands, Appletree Creek, Augathella, Biggenden, Booyal, Bundaberg, Byrnestown, Caloundra, Charleville, Cheepie, Childers, Chinchilla, Coolum Beach, Cooroy, Cordalba, Cunnamulla, Dallarnil, Degilbo, Eidsvold, Eumundi, Gayndah, Gin Gin, Gooroolba, Gunalda, Gundiah, Gympie, Howard, Ideraway, Landsborough, Maroochydore, Maryborough, Miles, Mitchell, Mooloola, Mooloolaba, Morven, Mount Perry, Muckadilla, Mundubbera, Mungallala, Mungar Junction, Nambour, North Arm, Ocean Beach, Palmwoods, Quilpie, Roma, Thargomindah, Theebine Junction, Tiaro, Tewantin, Torbanlea, Wallaville, Wullambilla, Woombye, Wyandra, Yandina, Yeulba.

Chocolates, Etc.

Stallholders at agricultural shows were found to be giving away boxes of chocolates and other sweets not labelled with the name and address of the packer, and, in addition, the quality of such confectionery was on occasions very questionable. In view of the fact that the sweets were not "sold" in the ordinary sense, but merely given away in prizes, the enforcement of proper labelling was rendered difficult. By courtesy, the Department of Justice has consented to make it a condition in the granting of permits to such stallholders that all foods given away as prizes must strictly conform to the requirements of "The Food and Drug Regulations, 1928," in regard to food for sale. It is anticipated that no further trouble will be experienced in this direction.

Nuts.

An interesting matter dealt with affected a shipment of Brazil nuts. Apparently owing to their having been harvested at a stage of immaturity, a mould had developed in what appeared externally to be a perfectly sound nut. As a result of the deterioration it was found necessary on the part on the owners to destroy considerable quantities of the nuts.

Sampling.

During the year a total of 6,002 samples of foods, drugs, and poisons were obtained by our officers and submitted to the Government Chemical Laboratory for examination.

These samples include :—Beverages, cabbage, cereal preparations, colourings, condiments, drugs and medicines, essences, fats and oils, fish (fresh, cured, and tinned), fruit, insecticides, jelly crystals, lemon butter, meat, milk and milk preparations, nuts, soap, spirituous liquors, tobacco, and tobacco leaf, toilet preparations, turpentine, wheat.

Miscellaneous samples, including crayons, paint scrapings, toys, wall paper, &c., were also subjected to analysis.

Bacteriological Sampling.

A total of 1,023 specimens, including the following articles, were collected and submitted by Headquarter's inspectors to the Department's Bacteriologist for examination, viz., Brawn, bread, cream, disinfectant, douche, flour, ice cream, mayonnaise, meat, milk, mouth wash, mud, oysters, paint scrapings, peanut meal, pork, salt, shampoo, soap, water, yeast.

Lead Colour on Toys.

The Health Acts prohibit the manufacture or sale of any toys, wallpaper, or other decorative paper, or paper serviettes, or paper used in the enclosure of any food, "in or upon which is paint, colour, facing, dressing, size, or varnish containing arsenic, lead, or antimony." As the result of the examination of numerous samples of such articles officers of this Department certified for destruction some 822 wooden and metal toys found to be decorated with a lead colour in contravention of the law.

One sample of wallpaper was found to contain arsenic and suitable action was taken in this matter.

Woollen Clothing.

At least 90 per cent. wool is required by the Health Acts to be present in any wearing apparel described or designated as woollen, or made from wool, or by any other description or designation denoting wool.

Examination of a line of cardigan jackets sold in a Brisbane store as "All Wool" showed the composition to be 60 per cent. wool, the balance of the fabric consisting of cotton and artificial silk.

Footwear.

Stocks of boots, shoes, and slippers have received attention at the hands of the Department's officers and, whilst no serious breaches came under notice, it was found neeessary to require certain traders to brand their stocks of footwear with the name and address of the seller in order to bring them into conformity with the branding provisions of the Health Acts.

Poisons.

Supervision of the sale of poisons and dangerous drugs by the Headquarter's staff was continued throughout the year, and, as a result, numerous minor breaches of the Poisons Regulations were effectively dealt with.

In a ease of the illegal securing of morphia the assistance of the Police Department was songht with the result that the person offending was arrested and prosecuted under the provisions of the Health Acts. The magistrate hearing the case inflicted the minimum penalty of £50.

Cairns.

The officer in charge of Cairns Sub-office has carried out duties under Part VI. of the Health Acts at his headquarters and, in addition, has visited the following outside places :—Mareeba, Dimbulah, Babinda, Innisfail, Garradunga, Mourilyan, South Johnstone, El Arish, Silkwood, Tully, Euramo, Lower Tully, Thursday Island, Cooktown, Mossman, Port Douglas, Mena Creek, Malanda, Millaa Millaa, Kairi, Peeramon, Kulara, Tarzali, Tolga, Atherton, Ravenshoe, Herberton, Mount Garnet, Chillagoe, Mungana, Alma Den, Mount Molloy, Cardwell.

Spirituous Liquor.

In two instances hotelkeepers were found to be selling rum below the legal standard of 35 degrees underproof, and, in each case a warning was given that any future lapse in this direction would mean immediate prosecution.

Unsound Foods.—Our officer certified to the destruction of 1 ton 7 ewt. 1 qr. 9 lb. of various kinds of food as being unfit for consumption.

Bread Weighing.—In a country town a baker was successfully proceeded against for having in his possession bread which was defieient in its due weight, and a fine of £3, and 6s. costs was secured.

Milk.—Of 39 samples of milk obtained officially and submitted to analysis, two failed to conform to standard. One was adulterated with 10·9 per cent. added water, and the other deficient in fat content.

Tobacco Leaf.—During the year 704 samples of tobacco leaf were obtained for examination. Of these, 30 samples were reported by the Government Analyst to be heavily contaminated with arsenate of lead. After the growers concerned were allowed the opportunity of selling this contaminated leaf for agricultural or horticultural purposes, a quantity of 1,676 lb. was destroyed under the supervision of an officer of the Customs and Excise Department.

Poisons.—A Chinese storekeeper in a country town was found to be selling chlorodyne whilst not being licensed as a dealer in poisons. This person admitted the sale of the drug to aboriginals. Action was taken by officer resulted in a conviction, and penalties totalling £4 7s. being secured. Two hundred and seventy-four bottles (1 oz.) of chlorodyne seized on the storekeeper's business premises were forfeited to the Crown.

Townsville.

The officer in charge of the Townsville Sub-office reports that work in the food and drug sections of his inspectorial duties has again received close attention during the past year.

Milk Supply.

Seventy-five samples of milk were obtained in Townsville and forwarded for analysis. Two were found to be adulterated with water and legal proceedings were instituted against the vendors. In one ease a conviction was secured and the defendant fined £5 and £1 7s. costs. The second ease was dismissed on a technical point.

Of 38 samples of milk submitted from Charters Towers 5 were adulterated with added water. Fines and costs totalling £106 15s. were imposed upon the sellers of these samples.

Fifty-six cases of apples and eleven cases of pears were so contaminated with arsenic and lead as to be unsafe for human consumption. The fruit was cleaned under the supervision of our offieer before being sold to the publie.

Three crates of cauliflowers were eondemned and destroyed as a result of their contamination with a poisonous inseetieide.

A quantity of 5 tons 8 cwt. 0 qr. 16 lb. of assorted foodstuffs found to be unfit for use as food was disposed of to the satisfaction of the inspector.

Nineteen unofficial samples of food and drugs and twenty-seven samples of tobaeeo leaf were submitted to analysis.

Mackay.

The officer in charge of Mackay Sub-office reports that during the period under review he inspected some 1,167 premises connected with the handling of food for sale, as the result of which numerous notices were served and considerable improvements effected in the conduct of the businesses concerned.

In addition to his duties in and round Mackay this officer has paid visits of inspection to the following outside places in his district:—Dundula, Hillend, Cedars, Habana, Bolden, Mount Bassett, Sarina, Baker's Creek, Homebush, Eton, Range, Retreat, Nebo, Walkerston, Raeecourse, Pleystowe, Marian, Mirani, Gargett, Pinnacle, Finch Hatton, Netherdale, Eungella, Eimeo, Scaview, Koumala, Carmila, Glenella, Farleigh, Wundaroo, Leap, Kattabul, Mount Pelion, Kolijo, Calen, Pindi Pindi, Yalbaroo, Proserpine, Bowen, Collinsville, Merinda, Police Camp, Nebia Creek, Dumbleton.

Milk Supply.—Eighty-six samples of milk were submitted for analysis, and whilst these were free from added water, twenty-nine were returned by the Government Analyst as deficient in fat. The vendors of the samples that failed were written to and advised of the neeessity to improve the quality of their milk supply.

Prosecutions.—For the offence of having conveyed water on his delivery vehiele a milkseller was convicted and fined £2 and 6s. eosts.

A hotelkeeper charged with having in possession for sale whisky adulterated with water appeared in the Mackay Summons Court and was convicted and fined £3 and £1 7s. costs. The same person was further charged with having sold whisky not true to label when a fine of £1 and 6s. costs was imposed by the presiding magistrate.

Rockhampton.

The Department's officer at Roekhampton reports that the supervision of the milk supply of that city has received much of his attention during the year. A total of eighty-eight samples of milk were officially obtained and submitted to analysis. Of these, thirteen were deficient in the proportion of milk fat (3·3 per eent.) required to be present, whilst four were adulterated with water—the percentages of added water being 7, 5, 4, and 4 respeetively. Legal proeeedings were instituted against eaeh of the latter offenders, and convietions obtained against three of them, whilst the fourth vendor was released from proseeution upon his wholesale supplier admitting that he had in faet adulterated the milk. Fines and costs totalling £32 7s. were imposed.

In addition, two eomplaints of having sold adulterated milk in the previous fiseal year were dealt with by a magistrate who imposed fines and costs amounting to £30.

For selling milk without a lieense three vendors were convicted and fined £4 and 12s. costs, £10 and 6s. eosts (seeond offence), and £1 and 6s. eosts respeetively.

Two milksellers for having used an absorbent material to help elose the lid of a milk vessel were each fined £1 and 6s. costs, and for failing to display his name upon his milk delivery vehiele a vendor was convieted and fined £1 and 6s. eosts.

Hotels.—The testing of spirits offered for sale in hotel bars failed to reveal anything of a serious nature.

Unsound Food.—Constant supervision over stoeks in warehouses, general stores, &c., resulted in the officer issuing certificates covering the destruction of over six tons of food-stuffs found in a deteriorated condition.

Toowoomba.

In addition to his work in and around the city of Toowoomba the officer in eharge of the Department's sub-offiee at this centre has visited the following outside places on food and drugs inspection work, viz.—Warwick, Milmerran, Brookstead, Pittsworth, Southbrook, Dirranbandi, Thallon, Nindi Gully, St. George, Goondiwindi, Yelarbon, Inglewood, Texas, Stanthorpe.

Milk Supply.—The milk supply of the officer's distriet has received eareful supervision in the direetion of inspection of vehicles, utensils, and vendors' premises. During the year 181 official samples of milk were submitted for analysis, and four of these (Toowoomba 2, Warwick 2) were returned by the analyst as adulterated with added water, and nineteen deficient in the percentage of fat required to be present. In the ease of fat defieieneies letters of warning to improve the quality of milk sold were sent to the vendor eoneerned.

Prosecutions in the four adulteration eases resulted in a eonvietion being reeorded in each instance and the collection of £75 5s. in fines and costs. For having sold milk without a license one vendor was convieted and fined 10s. and 6s. eosts.

Contaminated and Unsound Foods.—Apples imported from a Southern State were heavily eontaminated with a lead arsenate spray and the owner was required to clean some 283 cases of the fruit in order to render it safe for human use.

As a result of the aetivities of this Department's officer 1 ton 9 cwt. 1 qr. 27 lb. of food of various kinds was destroyed as unfit for sale.

LIST A.

PROSECUTIONS FOR ADULTERATED MILK (ADDED WATER) FOR YEAR 1934-35 (HEADQUARTERS).

Date.	Place.	Added Water.	Fines.	Costs.
1934—		Per cent.	£ s. d.	£ s. d.
6th July	Mount Mee	6·4	6 0 0	1 7 0
10th July	Brisbane	8·2	8 0 0	1 7 0
16th August	Brisbane	11·8	11 0 0	1 7 0
31st August	Ipswich	4·5	4 0 0	1 7 0
13th September	Ipswich	23·6	20 0 0	1 7 0
13th September	Brisbane	4·5	4 0 0	1 7 0
15th November	Brisbane	5·0	5 0 0	1 7 0
1935—				
17th January	Brisbane	9·6	9 0 0	2 8 0
22nd January	Brisbane	6·3	6 0 0	1 7 0
7th February	Brisbane	6·3	10 0 0	1 7 0
13th June	Brisbane	10·0	10 0 0	1 7 0
13th June	Brisbane	6·7	6 0 0	0 6 0
18th June	Brisbane	6·7	10 0 0	1 7 0
Totals	..	..	£109 0 0	£17 11 0
Averages	..	..	£8 7 8	£1 7 0

One Brisbane milkseller was convicted and fined £5 and £1 7s. costs for having sold milk 45·5 per cent. deficient in the proportion of fat (3·3 per cent.) required to be present.

LIST B.

PROSECUTIONS FOR ADULTERATED MILK (EXCESS BACTERIA) IN METROPOLIS FOR YEAR 1934-35.

Date.	Micro-organisms per Cubic Centimetre.	Fines.	Costs.
1935—		£ s. d.	£ s. d.
26th February	19,080,000	1 12 0	2 8 0
26th February	5,000,000	1 2 0	2 8 0
26th February	6,000,000	1 2 0	2 8 0
28th February	4,368,000	1 2 0	2 8 0
28th February	2,200,000	1 2 0	2 8 0
28th February	2,968,000	1 2 0	2 8 0
9th April	10,192,000	3 0 0	2 8 0
24th April	2,010,000	3 0 0	2 8 0
29th April	2,100,000	3 0 0	2 8 0
30th April	2,385,000	1 12 0	2 8 0
Totals	..	£17 14 0	£24 0 0

LIST C.

MISCELLANEOUS PROSECUTIONS AGAINST MILK-SELLERS BY HEADQUARTERS STAFF FOR YEAR 1934-35.

Date.	Place.	Nature of Offence.	Fines.	Costs.
1934—			£ s. d	£ s d.
26th July	Brisbane	Improper bottling of milk	0 10 0	0 6 0
21st August	Brisbane	Unlicensed vendor	1 0 0	0 6 0
31st August	Brisbane	Unlicensed vendor	1 0 0	0 6 0
6th September	Brisbane	Measures without lids	1 0 0	0 6 0
6th September	Brisbane	Uncovered vehicle	0 10 0	0 6 0
26th October	Brisbane	Use of improper vehicle	1 0 0	0 6 0
2nd November	Strathpine	Unlicensed vendor	0 10 0	0 6 0
8th November	Brisbane	Improper bottling of milk	1 0 0	0 6 0
8th November	Brisbane	Improper bottling of milk	0 10 0	0 6 0
8th November	Brisbane	Unlicensed vendor	0 10 0	0 6 0
20th November	Brisbane	Misuse of pasteurised milk container	2 0 0	0 6 0
22nd November	Brisbane	Measures without lids	2 0 0	0 6 0
4th December	Brisbane	Improper bottling of milk	0 10 0	0 6 0
5th December	Brisbane	Use of improper vehicle	1 10 0	0 6 0
6th December	Sandgate	Unlicensed vendor	2 0 0	0 6 0
1935—				
22nd January	Brisbane	Unlicensed vendor	0 10 0	0 6 0
31st January	Brisbane	Unlicensed vendor	1 0 0	0 6 0
28th February	Bunya	Name not on vehicle	1 0 0	0 6 0
20th March	Coolangatta	Milk-vessels without lids	1 0 0	0 6 0
20th March	Brisbane	Use of unregistered premises	1 0 0	0 6 0
20th March	Whiteside	Unlicensed vendor	1 0 0	0 6 0
20th March	Brisbane	Use of unregistered premises	3 0 0	0 6 0
2nd May	Brisbane	Carriage of water on milk vehicle	1 14 0	0 6 0
10th May	Ipswich	Name not on vehicle	0 14 0	1 7 0
18th June	Brisbane	Name not on vehicle	0 14 0	0 6 0
25th June	Brisbane	Use of improper vehicle	1 14 0	0 6 0
Totals	..	..	£28 16 0	£8 17 0

LIST D.

PROSECUTIONS FOR FRUIT AND VEGETABLES CONTAMINATED WITH ARSENIC AND LEAD FOR YEAR 1934-35. (HEADQUARTERS).

Date.	Place.	Article.	Fines.	Costs.
			£ s. d.	£ s. d.
1934—				
22nd November ..	Brisbane ..	Apples	10 0 0	1 13 0
1935—				
10th June	Brisbane ..	Cabbages	10 0 0	0 6 0
Totals ..	..	..	£20 0 0	£1 19 0

LIST E.

PROSECUTIONS OF LICENSED VICTUALLERS FOR YEAR 1934-35 (HEADQUARTERS).

Date.	Place.	Offence.	Fines.	Costs.
			£ s. d.	£ s. d.
1935—				
27th February ..	Howard ..	Rum, adulterated	5 0 0	1 7 0
27th February ..	Howard ..	Rum, adulterated	5 0 0	1 7 0
21st March	Southport ..	Whisky, adulterated	..	1 7 0
22nd March	Coolangatta ..	Rum, falsely described	2 0 0	0 6 0
14th May	Brisbane ..	Rum, falsely described	3 0 0	0 6 0
Totals ..	..	..	£15 0 0	£4 13 0

LIST F.

SHORT WEIGHT BREAD PROSECUTIONS FOR YEAR 1934-35 (HEADQUARTERS).

Date.	Place.	Shortage.	Fines.	Costs.
			£ s. d.	£ s. d.
1934—				
29th October ..	Brisbane ..	59¾ ozs.	4 8 6	0 6 0
1935—				
17th June	Brisbane ..	63¾ ozs.	3 3 0	0 6 0
17th June	Brisbane ..	49 ozs.	2 9 0	0 6 0
20th June	Brisbane ..	32 ozs.	3 0 0	0 9 0
Totals ..	..	204½ ozs.	£13 0 6	£1 7 0

LABORATORY OF MICROBIOLOGY AND PATHOLOGY.

The following is a summary of the work carried out in the Department's laboratory during the year ended 30th June, 1935.

The total number of specimens received was 78,674, an increase of 3,443 on those of last year.

This increase covers examinations of rodents for *B. pestis*, specimens for venereal disease, smears for leprosy, sputa for tuberculosis, bloods, urine, and fæccs for typhoid and para-typhoid fever, parasites for identification, fæces for hookworm ova, and specimens for medico-legal work, &c.

Especially noticeable is the increase in the number of specimens for venereal disease, bloods, urines, and fæces for typhoid, fæces for hookworm ova, and parasites for identification.

All the sources from which specimens were received in the previous year are observed in the present, with increased numbers.

PLAGUE.

The number of rodents destroyed during the year shows an increase of 7,788 compared with last year. Of the 39,144 received all were examined, but in none of the specimens was any evidence of plague found.

Rats received were classified as follows :—

Rattus rattus norvegicus	25,064
Rattus rattus rattus	3,224
Rattus rattus alexandrinus	5,613
Hydromys leucogaster	6
Unclassified (very young rats)	5,237
Mus musculus	2,210

Twenty-two rats showed the presence of numerous acid fast bacilli (rat leprosy).

Smears from rats in Northern towns were submitted for examination, but in none of them was the plague baeillus deteeted.

Diphtheria.—The total number of cultures submitted for the year was 12,147. Of these 8·9 per cent. contained *Corynebacterium diphtheriæ*, whilst for the previous year the number examined totalled 16,730, of which 13·4 per cent. showed the bacillus.

Virulence tests performed during the year showed a deerease, numbering 209 as against 382 for the previous year. The pereentage virulent was 51, compared with 25·6 last year.

Venereal Disease.—There was a markedly increased number of specimens submitted for examination. Of those tested for the Wassermann Reaetion 1,022 were positive. This is 35·8 per eent., as compared with 40·8 per cent. for the previous year.

Of the Gonorrhœal Complement Fixation tests made 204 were positivc, or 37·3 per eent.

Of the number of smears examined for *Neisserea gonorrhœæ* 918 were positive.

Of the speeimens examined for *Treponema pallidum* the p.reentage found positive was 28.

Typhoid.—Bloods examined by the Agglutination method for evidence of the presence of the Typhoid and para-typhoid fevers inereased. The pereentage showing positive reaction was 15·5.

The number of speeimens of urines (231) and fæees (252) showed a marked increase, and from three specimens of the latter the typhoid bacillus was isolated.

Tuberculosis.—Three hundred and seventy-eight specimens were submitted for examination for tubercle bacilli. The percentage showing the bacillus in sputum was 24·6, eompared with 31·9 last year.

Leprosy.—The specimens examined for the *bacillus lepræ* numbered 934 as against 867 last year. The majority of these were from persons suffering from the disease and segregated in the Lazaret.

Autogenous Vaccines.—The number of these vaccines prepared during the year was fifty-one, compared with forty-eight last year.

Two thousand nine hundred and forty-four e.e.s. of typhoid (T.A.B.) vaccine was supplied.

Foods.—Of the milks, ice ereams, and cream for baeterial eount, the figures were 1,117 for 1934-35, compared with 1,115 for 1933-34.

Identification.—There was a very marked increase in the number of parasites submitted for identifieation from the Brisbane City Council. Fleas received were elassified as under :—

Xenopsylla cheopis	181
Leptopsylla musculi	427
Ctenocephalus felis	3
Pulex irritans	2
Liponyssus bacoti	3

Hookworm.—The number of specimens of fæces examined for ova showed an increase of 631 on those of last year. The percentage showing the presence of ova was 3·9.

Legal Work.—Exhibits submitted to the laboratory by the Poliee Department amounted to ninety-six as against fifty-nine for the previous year.

Culture Media.—Six thousand three hundred and thirty-six swabs and culture tubes were forwarded to the Commonwealth Health Laboratories at Cairns, Townsville, Roekhampton, and Toowoomba.

SPECIMENS RECEIVED IN THE LABORATORY DURING THE YEAR, 1st JULY, 1934, TO 30TH JUNE, 1935

Examination.	Health and Hospitals.	Private Practitioners.	Total.
Diphtheria—			
Cultures	10,304	1,619	11,923
Direct smears	..	15	15
Virulence tests	186	23	209
Gonorrhœa—			
Smears	6,782	566	7,348
Bloods	468	79	547
Cultures	3	1	4
Syphilis——			
Wassermann reaction—			
Blood	2,262	592	2,854
C.S. fluid	7	3	10
Kline tests—Bloods	1,349	64	1,413
Treponema pallidum	19	6	25
Tuberculosis (Human)—			
Sputa	172	201	373
Urines	..	2	2
Pleural fluid	1	..	1
Smears	..	2	2
Tuberculosis (Bovine)—			
Milks	125	..	125
Leprosy—			
Smears (human)	857	76	933
Smears (rat)	22	..	22
Typhoid and Para-typhoid Fever—			
Bloods (agglutination)	70	52	122
Urines	211	20	231
Fæces	234	18	252
Ileum	1	..	1
Milk	1	..	1
Water	..	2	2
Blood culture	..	1	1
Typhus—			
Weil-felix	1	1	2
Vincent's Angina—			
Smears	1	4	5
Cultures	..	1	1
Hookworm—			
Fæces	798	22	820
Scarlet Fever—			
Cultures	29	2	31
Actinomycosis—			
Smear	1	..	1
Malaria—			
Blood smears	2	..	2
Dysentery—			
Fæces	..	1	1
Tænia Saginata—			
Fæces	..	1	1
Weil's Disease—			
Urine	2	1	3
Rats	12	..	12
Rat Kidneys	36	..	36
Meningitis—			
C.S. fluid	..	1	1
Food Poisoning—			
Bloods	12	..	12
Pork	1	..	1
Brawn	1	..	1
Identification—			
Parasites	663	..	663
Co-efficient—			
Disinfectants	8	..	8

Examination.	Health and Hospitals.	Private Practitioners.	Total.
Efficiency—			
Soaps	2	..	2
Vaccines—			
Sputa	2	4	6
Cultures	8	25	33
Fæces	1	3	4
Nasal swabs	..	3	3
Cervical swabs	..	2	2
Pus	2	1	3
Bacterial Diagnosis—			
C.S. fluid	1	3	4
Pleural fluid	1	..	1
Smears	3	2	5
Sputa	2	3	5
Cultures	1	4	5
Milks	10	..	10
Urines	4	5	9
Pus	..	1	1
Paint scrapings	1	..	1
Flour	1	..	1
Examination—			
Urines (microscopical examination)	8	17	25
Urines (urea)	4	..	4
Urines (albumin)	6	3	9
Urines (sugar)	6	..	6
C.S. fluid (cells)	3	..	3
Bakery samples	7	..	7
Food	4	..	4
Meat	1	..	1
Blood—			
Basophilia	3	5	8
Anæmia	2	2	4
Pernicious anæmia	..	1	1
Full count	2	..	2
Differential count	3	16	19
Urea	1	3	4
Occult Blood—			
Fæces	..	1	1
B. Coli—			
Waters	59	..	59
Oysters	3	..	3
Mud	3	..	3
Bacterial Count—			
Milks	949	..	949
Ice cream	26	..	26
Cream	1	..	1
Waters	27	..	27
Animal Inoculation—			
Virulence (C. diphtheriæ)	209	..	209
Milk (M. tuberculosis)	47	..	47
Weil's	3	..	3
Urines (M. tuberculosis)	2	..	2
Pleural fluid	3	..	3
Tissues—			
Nature	4	..	4
Medico Legal—			
Clothing (seminal and blood stains)	28	..	28
Clothing (blood)	17	..	17
Articles (blood)	18	..	18
Smears (spermatozoa)	16	..	16
Smears (gonorrhœa)	12	..	12
Hair (human)	1	..	1
Brain (identification)	1	..	1
Bones (human)	1	..	1
Lungs (breathed)	2	..	2
Totals	26,162	3,480	29,642

Examination of Rats and Mice for Plague.

—	Rats.	Mice.	Total.
Rodents received for examination from Brisbane City Council	39,144	2,210	41,354
Rodents destroyed by Brisbane City Council (not examined)	7,089	813	7,902

RAT SMEARS RECEIVED DURING THE YEAR.

Mackay	160
Bundaberg	1,208
Maryborough	901
Gympie	708
Ipswich	1,991
Sandgate	824
Wynnum	1,373
Meatworks (Brisbane Area)	513
	7,678
Grand Total	78,674

Five hundred and fifty-nine requisitions were supplied during the year, consisting of 22,573 swabs, 22,589 cultures, 1,244 glass slides, 1,597 Wright's capsules, 61 sterile water bottles, 79 blood phials, 152 urine bottles, 163 fæces specimen tins, 2 hookworm dosages, 11 blood agar tubes, 112 sugars, 79 tubes of distilled water, 2,944 c c.s. T.A.B. vaccine, 1,565 c.c.s. anterior poliomyelitis serum, 1,700 c.c.s. Alepol, 360 c.c.s. anti-Weil's serum, and 2 tubes of formalin saline.

AMOUNT OF CULTURE MEDIA PREPARED IN THE LABORATORY DURING THE YEAR 1934-35.

Medium Prepared.	Number of Tubes, &c.	
Serum cultures—		
Ox serum slopes	21,642	
Human serum plates	108	
		21,750
Ordinary Broth—		
Small tubes	784	
Bottles	12	
Large tubes (disinfectant)	570	
		1,366
Ordinary Agar—		
Small slopes	255	
Large slopes (typ. vaccine)	79	
Bulk for count purposes	30 litres	
		334
Sugars—		
Lactose	497	
Glucose	213	
Maltose	106	
Mannite	70	
Raffinose	56	
Salicin	152	
Dulcite	73	
Inosite	160	
Inulin	54	
Amygdalin	35	
Adonite	36	
Galactose	92	
Saccharose	164	
Erythrite	54	
Dextrin	54	
Arabinose	35	
Lævulose	97	
Glycerine	115	
Sorbite	35	
		2,098
Treble Lactose (tubes)		90
Endo's Medium for B. Typhosus (plates)		120
Endo's Medium for B. Coli (plates)		195
Methyl Red Medium (tubes)		90
Brilliant Green Enrichment Medium (tubes)		44
Peptone Water for Indol (tubes)		120
Medium for V.P. Reaction (tubes)		161
Litmus Milk (tubes)		36
Lemco Broth (Litres, used in bulk)		15
Wilson's Medium for B. Typhosus (plates)		342
Sod Citrate Medium (tubes)		100
McConkey's Medium (plates)		899
Lead Acetate (tubes)		24
		27,769

Alterations in Staff.

The office of Commissioner of Public Health was abolished and that of Director-General of Health and Medical Services created, Sir Raphael West Cilento, Kt., M.D., being appointed to the position on the 1st October, 1934, Dr. John Coffey holding the position of Deputy Director-General of Health and Medical Services.

Dr. E. H. Derrick was appointed Director, Laboratory Section, Department of Public Health, on probation from the 1st June, 1935.

Mr. R. H. Walsh, Senior Clerk, was appointed Acting Secretary, Department of Public Health, from the 1st July, 1934.

Mr. C. M. Cato, Health Inspector, was appointed Acting Chief Inspector of Foods and Drugs on account of absence of Chief Inspector Petherick on sick leave, from the 1st July, 1934.

Mr. S. Dudley, Health Inspector, appointed Acting Chief Sanitary Inspector from the 1st July, 1934.

Mr. A. W. Lowe, Record Assistant, was transferred to the Inspectorial Branch and appointed Assistant to Health Inspector from the 30th August, 1934.

Messrs. R. T. Hoffman, G. L. T. Wright, and R. J. Elliott were appointed Cadet Inspectors on probation.

Mr. H. W. Hodgson was appointed Inspector in connection with the campaign for the control and destruction of rats, mice, and bandicoots in the locality within which Weil's disease has been declared an infectious disease; and George Robert Roberts and Joseph Bernard Williamson were also appointed Inspectors in connection with Weil's disease.

Legislation, Etc.

"*The Health Acts Amendment Act of* 1934" was passed making provision for the appointment of a Director-General of Health and Medical Services and the transference of the powers of the Commissioner of Public Health to the Director-General, and also giving power to the Director-General to delegate certain powers to the Deputy Director-General, previously designated as Commissioner of Public Health. A Proclamation has since been issued bringing the Amendment Act into force.

Anterior Poliomyelitis (*Infantile Paralysis*) *Regulations* were regazetted for a further period of three years. *Government Gazette* of 12th Jaunary, 1935.

An amendment of the Food and Drug Regulations relating to crude fibre content of Cacao products was passed. *Government Gazette*, 29th September, 1934.

The Sanitary Conveniences Regulations for Licensed Victuallers' Premises were regazetted for a further period of three years. *Government Gazette* of 1st November, 1934.

The Plague Prevention Regulations were regazetted for a further period of three years. *Government Gazette*, 1st November, 1934.

The Rat Prevention and Destruction Regulations of 1934 were gazetted on the 15th November, 1934, to apply to certain portions of the Shire of Hinchinbrook in connection with Weil's disease. Weil's disease, coastal fever, Mossman fever, and Sarina fever were declared notifiable diseases throughout the State. *Government Gazette* of 25th August, 1934.

Weil's disease was declared an infectious disease within a defined portion of Hinchinbrook Shire on 8th November, 1934.

Legislation to provide for a Ministry of Health and certain consequential changes is, as yet, awaited. A revision and codification of all public health and related acts, ordinances, and regulations is intended subsequently as occasion provides.

Administration.

The general health conditions of the State of Queensland throughout the year have been satisfactory and, with the exception of the outbreak of Weil's disease in the northern areas, Queensland has been free from any epidemic of disease. The co-operation of the Local Authorities has been of definite assistance in maintaining a good uniform standard of health.

My thanks are particularly due to the officers of the Crown Law Department, the Government Analyst, and Police officers throughout the State, and the Commonwealth Department of Health, for their co-operation and assistance on appropriate occasions.

R. W. CILENTO, Kt., M.D.,
Director-General of Health and Medical Services.

Appendix A.

HOOKWORM CAMPAIGN.

DEPARTMENT OF PUBLIC HEALTH.

ANNUAL REPORT, 1935.

General.

The year ending 30th June, 1935, has witnessed extended activities in the field of Hookworm Control.

At the commencement of July, 1934, the staff comprised a Microscopist and two Residential Nurses at Cairns, two Nurses at Innisfail, one Nurse at Tully, and one Nurse at Ingham. In addition, Inspector Kennedy in the Innisfail area and Inspector Real at Cairns were responsible for activities in regard to sanitation.

In December, 1934, Nurse J. Bacon was transferred from Cairns to Brisbane, and Nurse B. L. Gibbon from Tully to Brisbane. On the 10th June, Nurse A. Leeper was transferred to Townsville.

The present disposition of officers is as follows :—Cairns : S. Thompson, Microscopist, and Nurse M. Thomsen. Innisfail : Senior Nurse C. A. Vincent and Nurse E. Underwood. Tully : Nurse A. S. Webb. Ingham : Nurse L. Waterhouse. Innisfail, Tully, Ingham : Inspector J. M. Kennedy. Cairns, Mossman : Inspector M. P. Real.

At the end of 1934 the school survey was completed in the Cairns, Innisfail, Tully, Ingham, Mossman, and Cooktown areas. During this period all positive school-going children received one treatment.

Most of the families of the positive children were followed up by the nurses in the towns and by the two Health Inspectors in the country.

From the beginning of 1935 until the 30th June follow-up work to the homes and treatment of positive hosts to a cure was concentrated on. In numerous cases it was necessary to give three or four doses of medicine before effecting a cure.

Owing to the great number of positive cases found it has been difficult for the two Health Inspectors to cope with all the follow-up work in all areas. This work still remains to be done in Mossman, Ingham, Tully areas and Mourilyan in Innisfail area.

The follow-up work to the homes of positive school-going children in Cairns itself is nearly completed, and most of the uncured cases are being mass treated by the Resident Nurse with the assistance of the Microscopist. This method of treatment is showing good results.

In the Cairns, Innisfail, Tully, and Ingham areas the Ancylostoma type of hookworm predominates, in the Mossman area the Necator.

During the last nine months special attention has been given to Parramatta in the Cairns area where most of the hosts were found. Soil samples were taken from certain premises and examined, and where free living hookworms were found the occupiers were advised to scatter hot suds and disinfectant.

After examination of school-going children follow-up work was carried out at the homes of hosts ; also many miscellaneous specimens were examined. The results as shown in the attached table give a fair indication of the amount of hookworm that exists in all areas.

It is also interesting to note that out of 238 school-going children re-examined after being cured six months, only 22 were found to be reinfected. This shows that the sanitation is gradually being brought up to a safe standard, preventing soil pollution at the homes of hookworm hosts.

During the past six months the Microscopist has mass treated 718 aborigines for hookworm disease.

The general position in each area is as follows :—

Cairns.—Includes all districts under hookworm control north of Babinda as far as Cooktown.

A decrease of infestation has been noticed in Cairns, Mossman, and Cooktown areas. A fairly heavy infestation was found at Miallo and Mossman State Schools during the school survey.

In most cases treatments have been delivered as per programme, with the exception of Mossman and Cooktown, where some were posted to the teachers at the schools.

Inspector Real is making every endeavour to bring the sanitation up to a safe standard at Parramatta in the City of Cairns, and West Cairns in the Cairns Shire, but, after his reinspections at Parramatta, there still remained 401 defective cabinets. The City Council has been instructed by the Health Department to enforce the provisions of the Sanitary Conveniences and Nightsoil Disposal Regulations, and when this is carried out the risk of hookworm infestation will be greatly minimised.

Innisfail comprises the following sub-areas :—Innisfail town, Mourilyan, South Johnstone, Daradgee, Goondi, and Babinda.

A decrease of infestation has been noticed in all the above sub-areas. All the follow-up work has been completed with the exception of Mourilyan sub-area, which carried a fairly heavy infestation.

The sanitation is being attended to by Inspector Kennedy.

Ingham comprises the following sub-areas :—Ingham Town, Macknade, Halifax, Victoria, Trebonne, Stone River, Hawkin's Creek, and Bambaroo.

There is still a fair amount of follow-up work to be completed in this area.

Inspector Kennedy has been working on and off in this area during the past few months doing hookworm follow-up work.

Halifax, Macknade, and Hawkin's Creek sub-areas carry a fair infestation.

There is at least six months' work in the Ingham area before all the follow-up work is completed.

Tully.—This area always carried a fair amount of infestation and there still remains a fair amount of follow-up work to be done.

Inspector Kennedy visits this centre periodically and gives every assistance to the Resident Nurse.

Mass treatment of white families is now being carried out at Tully in cases where there is any doubt of the treatment not being taken.

Attached hereto please find tables giving figures of each area with headings to indicate the nature of the work done.

Returns of sanitation and other works carried out by the Sanitary Inspectors will be furnished separately.

Brief visits were made by the Microscopist to all centres as required and as opportunity offered to arrange matters in connection with Hookworm Control.

S. THOMPSON, Microscopist in Charge.

Hookworm Campaign.

Endemic Area under Residential Control.

Table to Accompany Annual Report, 1935.

Name.	Census.	Specimens.					Treatment.				
		Received.	Exam'd.	Re-exam'd.	Positive.		Notices.	Delivered	Posted.	E. C'ts.	Cured.
					H. W.	Others.					
Cairns Area—											
Schools	*2,238	2,741	2,341	474	388	253	238	306	73	388	237
Innisfail Area—											
Schools	654	824	673	151	106	129	182	102	4	106	103
Ingham Area—											
Schools	5	41	7	34	25	6	..	28	..	25	12
Tully Area—											
Schools	892	940	826	107	133	87	76	137	7	133	63
School Total ..	3,789	4,546	3,847	766	652	475	496	573	84	652	415
Other Hosts in—											
Innisfail Area ..	..	164	..	164	74	6	7	118	6	74	90
Ingham Area ..	..	25	..	25	12	..	..	6	..	12	13
Tully Area	..	13	..	13	6	..	..	2	..	6	7
Other Hosts Total	..	202	..	202	92	6	7	126	6	92	110
Miscellaneous—											
Cairns Area ..	*718	812	585	217	231	40	27	169	86	231	68
Innisfail Area ..	827	827	827	..	107	84	72	18	3	107	..
Ingham Area ..	389	407	402	5	85	13	1	63	..	85	3
Tully Area	293	319	283	36	72	37	27	40	3	72	6
Miscellaneous Total	2,227	2,365	2,107	258	495	174	127	290	92	495	77
Aborigines—											
Cairns Area ..	224	262	226	36	95	166	4	200	11	61	3
All Areas—											
Cairns Area ..	*3,180	3,815	3,162	727	714	459	269	675	170	680	308
Innisfail Area ..	1,481	1,815	1,500	315	287	219	261	238	13	287	193
Ingham Area ..	394	473	409	64	122	19	1	97	..	122	28
Tully Area	1,185	1,272	1,109	156	211	124	103	179	10	211	76
Grand Total ..	6,240	7,375	6,180	1,262	1,334	821	634	1,189	193	1,300	605

Hookworm Cultures.

—	Ancylostoma.	Necator.	Mixed.
*Cairns Area	30	37	8

* The Mossman Area figures are included in the Cairns Area.

SCHOOL GOING CHILDREN.

Re-examinations after being Cured Six Months.

Name of Areas.	Received.	Re-examined.	Re-infected, H.W.	Others.	Still Cured.
Cairns Area	137	137	18	2	119
Innisfail Area	58	58	1	3	57
Ingham Area	28	28	3	..	25
Tully Area	15	15	..	..	15
Totals	238	238	22	5	216

Appendix B.

GOVERNMENT CHEMICAL LABORATORY.

The Director-General of Health,
Department of Public Health,
Brisbane.

Sir,—I have the honour in accordance with section 3 of "*The Health Acts*, 1900 *to* 1931," to submit the following report of the work done in the Government Chemical Laboratory for your Department during the year ending 30th June, 1935. The number of samples examined was 6,002, which although 312 less than the record number examined last year, was 1,274 samples greater than in any other year.

The following table gives a summary of the work done :—

TABLE I.

Nature of Sample.	Number of Samples.	Passed.	Failed.
Beverages and cordials	52	31	21
Cabbage	21	12	9
Cereal preparations	26	18	8
Colourings and dyes	16	10	6
Condiments	18	18	..
Crayons	63	38	25
Drugs and medicines	127	89	38
Essences	49	21	28
Fæces	14	9	5
Fats and oils	34	27	7
Fish (tinned)	12	12	..
Fish (not tinned)	78	65	13
Fruit	248	26	222
Hair (human)	17	6	11
Insecticides	7	3	4
Jelly crystals	14	2	12
Lemon butter	5	2	3
Meat	25	20	5
Milk (fresh)	2,697	2,143	554
Milk preparations	13	10	3
Nails (human)	4	2	2
Nuts	18	3	15
Paint scrapings	94	26	68
Soap	13	12	1
Spirituous liquors	74	55	19
Tobacco	1,848	1,781	67
Toilet preparations	11	9	2
Toys	9	2	7
Turpentine	6	4	2
Urine	194	181	13
Wall paper	20	19	1
Water and sewage	58	43	15
Wheat	10	10	..
Miscellaneous	107	78	29
	6,002	4,787	1,215

Of the total number of samples submitted, 2,545 were legal samples taken by inspectors in accordance with the provisions of the Health Acts.

Table II. shows the results from these samples :—

TABLE II.

Nature of Sample.	Number of Samples.	Passed.	Failed.
Milk	2,506	1,988	490 (28 sour)
Spirituous liquors	29	11	18
Miscellaneous	10	2	8
	2,545	2,001	516

The following table shows the details of the legal samples of milk :—

TABLE III.

Place.	Number of Samples.	Passed the Standard.	Genuine but below the Standard.	Deficient in Fat.	Adulterated with Water.	Average Percentage of Added Water.	Sour.
Brisbane	1,648	1,302	154	129	55	6·6	8
Bowen	12	5	..	7	..	..	..
Beaudesert	20	11	6	3	..	..	..
Bundaberg	15	13	..	..	2	14·6	..
Cairns	39	35	1	..	1	11·0	2
Charters Towers	38	27	1	5	5	13·0	..
Gympie	17	14	..	..	3	10·0	..
Ipswich	94	90	1	2	1	4·5	..
Mackay	37	26	8	3	..	..	..
Manly and Wynnum	64	54	5	3	2	10·0	..
Maryborough	22	18	..	..	4	11·0	..
Redcliffe	28	23	2	3	..	..	..
Rockhampton	78	51	8	11	4	5·0	4
Roma	12	11	..	..	1	19·0	..
Sandgate	69	56	8	4	1	16·0	..
South Coast	33	29	..	2	..	..	2
Toowoomba	144	122	2	18	2	6·0	..
Townsville	75	46	11	4	2	7·6	12
Warwick	29	26	1	..	2	14·6	..
Various (6)	32	29	2	..	1	6·6	..
	2,506	1,988	210	194	86	8	28

A summary of these results shows that 79·3 per cent. of the samples complied with the standard, 8·4 per cent. were genuine but slightly below the standard, 7·8 per cent. were deficient in fat, while 3·4 per cent. were adulterated with water.

The following table shows the milk position as compared with the four previous years :—

TABLE IV.

Year.	Number of Legal Samples.	Percentage Deficient in Fat.	Percentage Watered.	Average Percentage of Added Water.
1930–31	1,638	8·7	2·5	8
1931–32	1,865	7·8	4·1	10
1932–33	2,146	5·0	4·9	7
1933–34	2,259	5·4	3·1	8
1934–35	2,506	7·8	3·4	8

While the position with regard to the watering of the milk was about the same as for the previous year it was distinctly worse with regard to the deficiency in fat. There is still a considerable amount of skimming of milk being practised among milk suppliers. The average fat content of milk in the Brisbane area in thousand of samples, taken over thirty years, is close to 4 per cent., so that the legal standard of 3·3 per cent. fat is by no means a high standard to attain. The proportion of watered samples, while a great improvement on the samples of twenty years ago, is still twice as great as it is in communities where the milk supply is more closely controlled.

The samples of spirituous liquors examined were those in which inspectors had found in their hydrometer tests that the liquor was either close to or under the standard. Those which failed were failed only for shortage of alcohol content.

Of the other legal samples four were of paint scrapings, all of which contained much more than the permitted proportion of lead ; two were of minced meat which contained preservatives ; one was from a consignment of apples which had poisonous insecticides adhering to the skin ; one was of chlorodyne not of standard composition ; while one of sausage meat and one of ice cream passed the standards.

In a considerable proportion of cases the cause of failure lay in the labelling, not in the chemical composition—that is, the claims made on the label were more or less false and misleading. This applied to most of the failed beverages and cordials, to the drugs, jelly crystals, and toilet preparations.

In the case of the cabbage the trouble was that of growers sending in cabbages with poisonous insecticide adhering to them. Out of twenty-one cabbages brought in by inspectors as showing insecticide nine proved to be contaminated with lead arsenate, the remaining twelve having been sprayed with lime only.

In the same category come the 1,848 samples of tobacco which were examined for arsenical preparations. The position has still further improved from last year as only sixty-seven samples contained more than traces, the proportion of samples showing more than the tolerance only being 3·6 per cent. as against 8·8 per cent. last year.

The apples from the Southern States also suffer from the same trouble, and out of 242 samples which were sent as showing insecticide, 219 were stopped as yielding more than one-hundredth part of a grain of arsenic trioxide per pound.

The cereals and nuts which failed were contaminated with grubs, while the food colourings which were stopped were not on the permitted list.

The crayons, fæces, and urine, paint scrapings, toys, and a few of the miscellaneous samples were examined in connection with the investigations into lead poisoning among children. Of sixty-three samples of crayons twenty-five contained lead varying in proportion from 0·3 per cent. to 18·3 per cent., and also arsenic at the rate of from three-sixteenths to thirty-three grains per pound. The paint scrapings from veranda rails showed sixty-eight out of ninety-four samples to contain more than the 5 per cent. soluble lead permitted by the Health Acts, most of the condemned samples being ordinary lead paints. Of the nine toys sent in as possibly being contaminated with lead, seven were found to yield lead and two were passed.

Most of the essences examined were samples which were for various reasons under suspicion, and twenty-eight failed as not being up to standard out of forty-nine tested. Of twenty-four samples of fats and oils, seven samples of oil failed, four being labelled as medicinal which were only suitable for external use, one sample labelled tea tree oil was not a tea tree oil, and one sample of camphorated oil was not up to standard.

Of the fish samples tested twelve samples of tinned fish all reached the standard, but of the other fish, samples from five shipments of cod fish blocks were passed, but one shipment was condemned for the presence of formaldehyde. The fish from this shipment was almost white in colour. It had a soft moist surface and gave off a marked odour of formaldehyde. Samples varied in yield of formaldehyde from 100 to 650 parts per million. It was unsmoked fish preserved with formalin. Smoked fish produced locally yielded from ten to forty parts of formaldehyde per million.

Little information seems to be published as to the proportion of formaldehyde which can be expected from genuine smoked fish. It is known that formalin was sometimes added to the sawdust used in producing the smoke in the treatment of both fish and bacon, so that results of analyses of commercial smoked fish do not necessarily give a reliable indication as to the proportion of formaldehyde which should be expected in smoked fish. A short investigation was therefore made in the Laboratory by conducting a series of experiments, using the details of methods in use locally for smoking fish. Fresh fish were cleaned, salted, partly dried and smoked, portions being withdrawn from time to time to determine the rate of absorption of formaldehyde.

It was found that the maximum proportion of formaldehyde was attained in about four hours, the proportion after that time falling off slightly. Mullet fish of an average cleaned weight of 17 ounces and an exposed surface of about 84 square inches gave, after four hours smoking, a maximum recoverable proportion of eighteen parts per million. Tailer fish of an average cleaned weight of 9 ounces and a surface of about 66 square inches smoked at the same time gave a maximum recoverable proportion of 45 parts per million.

The results indicate that for genuinely smoked small fish not more than about forty-five parts per million of recoverable formaldehyde are likely to be present, with a smaller proportion from larger fish.

The method used for the determination of the formaldehyde was the usual distillation with phosphoric acid and colour reaction with phenylhydrazine. The usual controls by this method showed the presence of formaldehyde in the smoke, its absence from the fresh fish, and that the proportion in the outer flesh was higher than in the inner flesh. They also showed that the proportion of recoverable formaldehyde in the smoked fish decreased fairly rapidly for a few days, the decrease becoming slower as time went on.

Of the five samples of lemon butter tested three showed the presence of glucose.

The samples of human hair and human nails were submitted in connection with cases of suspected arsenical poisoning, positive results being obtained in eleven out of seventeen samples of hair and in two out of four samples of nails.

The minced meat tested show that there are still certain butchers who use preservative in this form of "fresh" meat.

The three milk preparations which failed were old stock which had become rancid.

A rather unusual occurrence was the finding of arsenic in one sample of wallpaper out of twenty examined.

The miscellaneous samples included baking powder, beer, bone meal, cloudy ammonia, calcium phosphate, confectionery, custard powders, disinfectants, heading compounds, hydrometers, infants' foods, jam, metal taps, office paste, rubber latex, and vinegar.

Yours faithfully,

J. B. HENDERSON, Government Analyst.

Appendix C.

REPORT OF THE X-RAY AND OTHER ELECTRO-MEDICAL EQUIPMENT ADVISORY BOARD, 1934-35.

For some considerable time the situation with regard to X-ray and other electro-medical equipment in Queensland has been recognised as being in an unsatisfactory state. Standards have been, to a large extent, arbitrary, and applications have been determined more by the salesmanship of visiting representatives of firms than by the actual necessities of the districts.

In consideration of these facts, the Home Secretary, Hon. E. M. Hanlon, decided to press for the appointment of an Advisory Board. The matter having received Cabinet consent, was placed before His Excellency the Governor who, with the advice of the Executive Council on the 1st May, 1935, appointed the following members to constitute such a Board :—

Sir Raphael West Cilento, Kt., M.D., Univ. Adel., Director-General of Health and Medical Services ;

Valentine McDowall, M.B., Ch.M., Univ. Syd. ;

Arthur Boyd, B.E., D.Sc., M.I.E.E., Assoc. M.Inst., C.E. ; and

George William Watson, Under Secretary, Chief Secretary's Department.

The functions and duties of the Board were set out in a Schedule attached to the notification of appointment as follows :—

1. To report upon the standard of X-ray machines (including deep therapy machines) and equipment and other electro-medical and surgical equipment, which should be provided in the several public hospitals in the State, and organisation and staffing of X-ray departments.

2. (1) To prepare standard specifications and conditions of tender and contract for all X-ray and other electro-medical and surgical equipment for use in public hospitals, where such standard specifications have been prepared by any authoritative body in Australia or Great Britain. Where there are Australian standards, such standards shall be adopted and where there are no Australian standards, British standards shall be adopted.

(2) To call all tenders for X-ray and other electro-medical and surgical equipment for use in public hospitals through the State Stores Board.

(3) To report to the Minister upon all tenders received and to make recommendations thereon. In the consideration of tenders, the following matters shall be noticed and reported upon, namely :—

(i.) General qualities of the several X-ray machines and accessory equipment tendered, or other electro-medical or surgical machines or equipment and accessory equipment.

(ii.) In view of the fact that X-ray and electro-medical and surgical machines or equipment are usually provided by way of loan, the durability and robustness of the several machines or equipment tendered.

(iii.) Ease and rapidity of operation and performance of machines and equipment, and maintenance and operating costs ;

(iv.) Technical data required to be submitted in the tenders and rating claims made by the maker for the machines and equipment tendered, and in the case of X-ray machines as also declared upon the rating plates affixed to the machines, which rating plates shall contain declarations of rating required by the Australian Standard Specifications or British Standard Specifications, or where there are no Australian or British Standard Specifications, as required by the Specifications of the Board ;

(v.) Degree to which tenders have complied with the specifications, and whether non-compliance or a partial non-compliance with the specifications should disqualify any tender ;

(vi.) Tests which have been carried out by the Board, or which the Board has caused to be carried out in respect of the several machines or equipment tendered in accordance with tests prescribed in Australian Standard Specifications or British Standard Specifications, as the case may be, or where there are no Australian or British Standard Specifications, in accordance with tests specified by the Board, and to report the results of such tests and to report the order of merit and quality of each machine or equipment tendered as shown by the tests and to certify whether the declarations of the makers of the several machines or equipment have been established by such tests.

In the case of British and foreign machines or equipment, the certificate of the National Physical Laboratory, England, or a certificate recognised by the National Physical Laboratory, England, may be accepted.

(vii.) Having regard to the foregoing considerations, price and preferences as declared by the Government from time to time, to place the tenders in order of merit and value. In applying preference the Board shall report the country of manufacture of the machine or equipment tendered, and where the machine or equipment is not wholly manufactured in one country, the country of origin of the several component parts, and where the material from which the machine or equipment is manufactured is not produced in the declared country of manufacture, the country from which such material is obtained.

3. To furnish an Annual Report to the Minister upon the work and activities of Board.

On the 7th May, 1935, the attention of all hospital authorities was directed to the statement appearing in the *Government Gazette* of the 4th May as above, with the intimation that they were now required to submit all matters pertaining to the purchase, overhaul, &c., of X-ray machines (including Deep Therapy Machines) and equipment, and other electro-medical and surgical equipment, and the organisation and staffing of X-ray departments to this Board in order that tenders might properly be called, and in order that a report and recommendations might in the first instance be made to the Minister before hospital authorities could be permitted to proceed with such matters. It was pointed out that the Government was moved in this matter by the highly technical nature of the apparatus in question, and the difficulties met by hospital authorities in seeking to obtain expert guidance in the matter of purchases.

As a preliminary to the functioning of the Board, it was decided to observe the practices obtaining in New South Wales, and on the 25th May, 1935, the Director-General of Health and Medical Services (Sir Raphael Cilento) was instructed to proceed to Sydney to make necessary inquiries there.

Particular attention was devoted to the serviceability of machines actually in operation, and to the standards laid down for the specifications in respect of hospitals of different bed capacities. Every assistance was received from the authorities in New South Wales in this respect.

Subsequent to his return on the 13th June, 1935, and the preliminary meeting of the Board, Sir Raphael Cilento took an occasion during a visit to North Queensland, to inspect existing apparatus at the Innisfail and Ayr Hospitals, *inter alia*, which had made application for completely new X-ray apparatus.

A questionnaire was also prepared to determine precisely what X-ray equipment existed in public hospitals throughout Queensland, and what areas were thus served. These matters had not reached definition at the close of the financial year a fortnight later (30th June, 1935).

During the ensuing twelve months, the Advisory Board will take all steps necessary to place X-ray matters in Queensland upon the basis set down in the Schedule above, and to determine the large number of existing applications which have been received for consideration. It is hoped also to provide information for the various hospitals which may materially contribute to the efficiency and economy of their routine working in this regard.

R. W. CILENTO (Chairman).
A. BOYD.
V. McDOWALL.
G. W. WATSON.

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